

JVC

SERVICE MANUAL

MODEL

RC-M70L/LB

FM-MW-LW-SW₁-SW₂-SW₃

6-BAND STEREO
RADIO CASSETTE
RECORDER



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Specifications

DIMENSIONS: 55.4 cm(W) x 30.3 cm(H) x 15.1 cm(D)

WEIGHT: Approx. 9.0 kg (with batteries)

TUNER SECTION

| | |
|------------------|--------------------|
| Frequency Ranges | : FM 88 — 108 MHz |
| | MW 540 — 1600 kHz |
| | LW 150 — 350 kHz |
| | SW1 2.3 — 6.0 MHz |
| | SW2 5.95 — 6.2 MHz |
| | SW3 6.0 — 18.0 MHz |

RECORDER SECTION

| | |
|-------------------|-----------------------------------|
| Tape Speed | : 4.8 cm/s (1-7/8 ips) |
| Track System | : 4-track 2-channel stereo |
| Recording System | : AC Bias |
| Erasing System | : AC Erasing |
| Fast Forward Time | : Within 110 sec. (C-60 cassette) |
| Rewinding Time | : Within 110 sec. (C-60 cassette) |
| Wow & Flutter | : 0.065 % (WRMS) |

AMPLIFIER SECTION

| | |
|--------------------|--|
| Speakers | : 16 cm (6-1/2") x 2, 5 cm (2") x 2 |
| Power Output | : Max. 30 W (15 W + 15 W) |
| Input Jacks | : MIC x 2 (low impedance) Phono x 2 (3 mV, 47 kΩ) |
| Output Jacks | : Ext. Speaker x 2 (8 Ω) Headphones (8 — 32 Ω) |
| Input/Output Jack | : DIN |
| POWER CONSUMPTION: | 47 W (L), 44 W (LB) |
| SEMICONDUCTORS | |
| ICs | : 12 (includes microphones) |
| Transistors | : 49 (includes motor governor) |
| Diodes | : 64 |
| POWER SOURCE | |
| DC | : 15 V, 10 "D", "R20" cells or equivalent |
| AC | : 240/220/110 V, 50/60 Hz |

Design and specifications subject to change without notice.

Operating Principle of MULTI MUSIC SCANNER

(Automatic program selection facility)

This is basically identical with the RC-343/646's MULTI MUSIC SCANNER (MMS) facility. The only difference is the use of the newly developed AN6260 IC which enables skipping of more programs.

Features

- 1) It is possible to skip up to 8 programs.
- 2) Used together with the PAUSE button, it is possible to skip 9 to 16 programs.
- 3) If the number of programs to be skipped is not set, the next program will be automatically selected.

AN6260

- 1) This IIL logic LSI incorporates a dynamic LED drive matrix.
- 2) When the AN6260 is operating, the output signal is muted because otherwise noise would be developed due to dynamic drive of LEDs.

Block Diagram of MMS

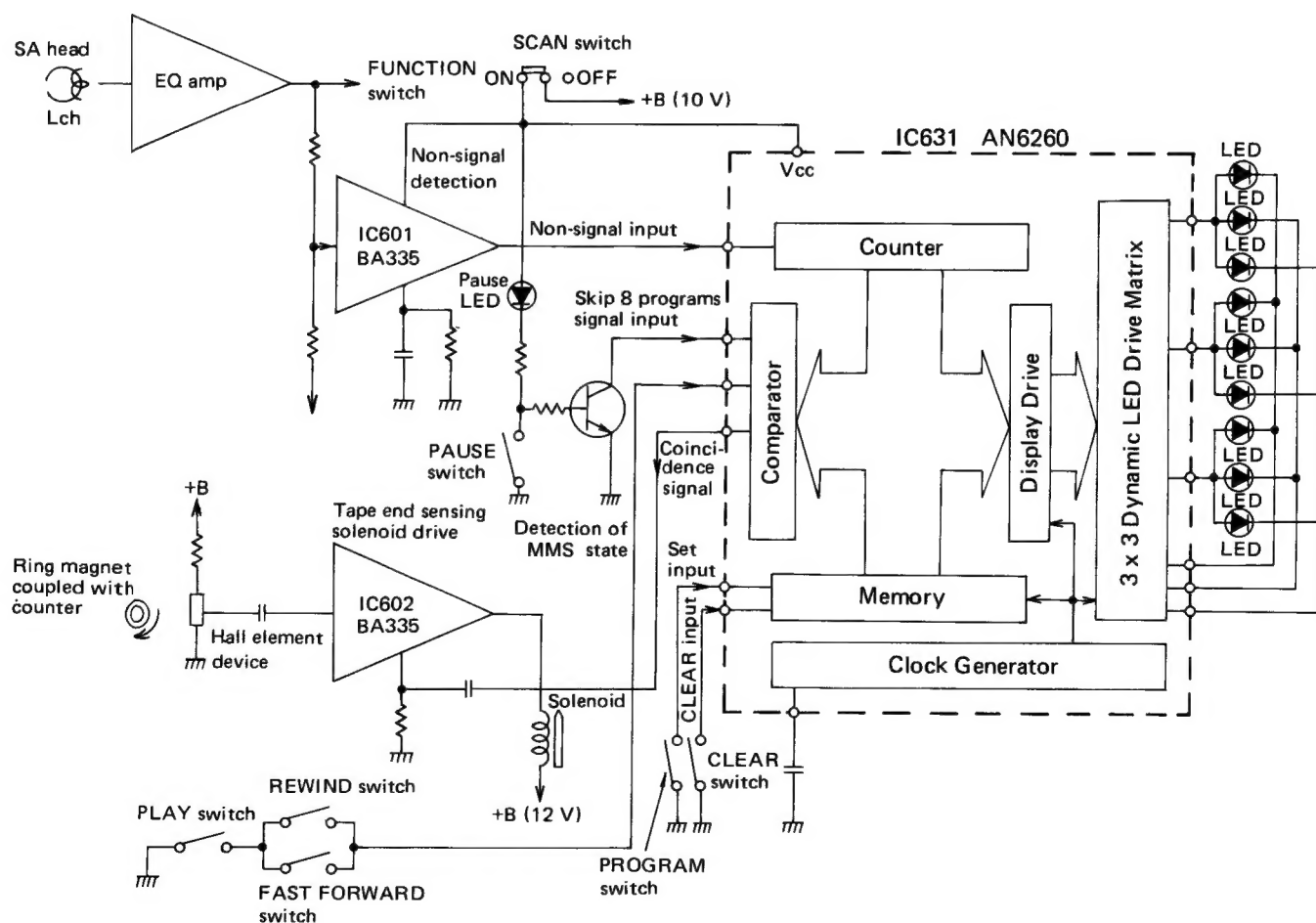


Fig. 1

Main Parts Location

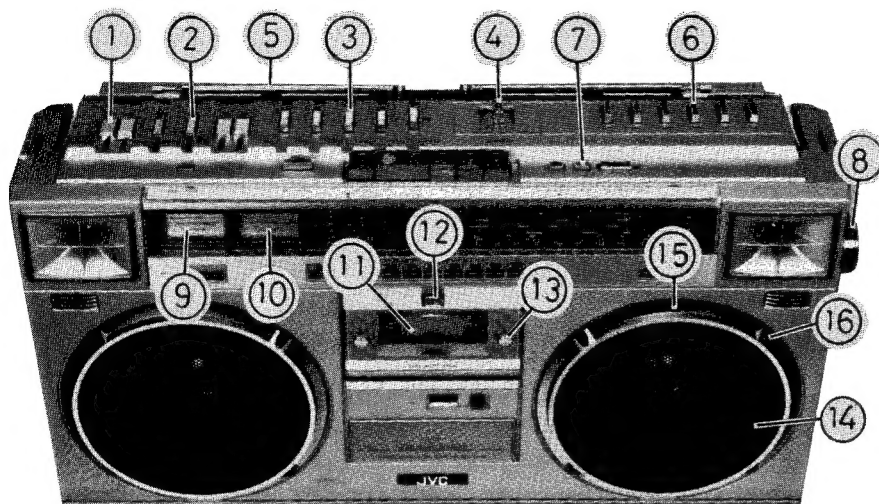


Fig. 2

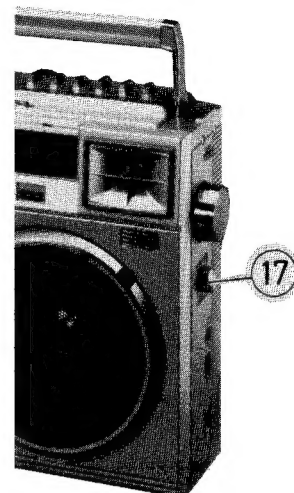


Fig. 2'

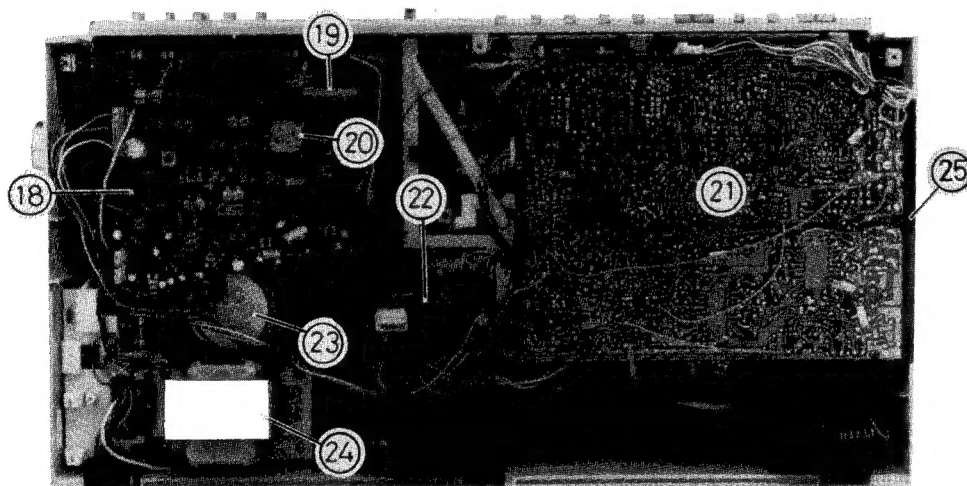


Fig. 3

| Ref. No. | Parts No. | Parts Name | Description | Q'ty |
|----------|----------------|---------------------|---------------------------|------|
| 1 | *VXS4027-002 | Knob | VOLUME, REC LEVEL | 4 |
| 2 | *VXS4028-002 | " | BASS, TREBLE | 2 |
| 3 | *VXS4026-001 | " | REC, TAPE, LOUDNESS, MODE | 6 |
| 4 | *VXQ4028-001 | Lever Cap | FUNCTION | 1 |
| 5 | QZR4147-001U | Rod Antenna | | 2 |
| 6 | *VXP4054-001 | Push Button | BAND, REC MUTE | 7 |
| 7 | *VXP4053-003 | Knob | PROGRAM, CLEAR | 2 |
| 8 | *VXL4109-001 | " | Tuning | 1 |
| 9 | *VGM0320-006 | Indicator | L-Channel | 1 |
| 10 | *VGM0320-005 | " | R-Channel | 1 |
| 11 | *VJT3045-001 | Cassette Lens | | 1 |
| 12 | TJL271485-01 | Head Mark | SA | 1 |
| 13 | TJA345525-01 | Special Screw | | 2 |
| 14 | *VJD3198-001 | Speaker Net | | 2 |
| 15 | *VJD3199-001 | Speaker Ring | | 2 |
| 16 | VJD4008-001 | Special Screw | | 8 |
| 17 | *VXKM520-20011 | Knob | Fine Tuning | 1 |
| 18 | * | Circuit Board Ass'y | Tuner | 1 |
| 19 | VQB016B-302 | Bar Antenna | L8, 9 | 1 |

| Ref. No. | Parts No. | Parts Name | Description | Q'ty |
|----------|---------------|---------------------|-------------|------|
| 20 | QAP1224-511V | Variable Capacitor | C1 - 8 | 1 |
| 21 | * | Circuit Board Ass'y | Amplifier | 1 |
| 22 | * | " | Auto Stop | 1 |
| 23 | *EAS16P182S | Speaker | SPK301, 401 | 2 |
| 24 | △*VTP66N2-15B | Power Transformer | T681 | 1 |
| 25 | *VJD3208-001 | Jack Board | | 1 |

Notes:

1. Asterisked parts (*) show "NEW PARTS". Other parts are all "CURRENT PARTS"; therefore, check your inventory and order situation before placing new order to avoid making extra stock.
2. The circuit board assemblies and whole assembly of cassette mechanism in this model will not be available as spare parts.
3. The parts marked △ are the important parts for safety assurance.
Use the specified part, when replacing the safety assurance part, never use an equivalent one.

Removal of Parts — Remove parts in the sequence (1) to (4). —

1. Rear cabinet

- Remove eight screws ① through ⑧ (① to ③ : SDSP3012RS, ④ to ⑧ : SBSF3040R).
- Disconnect three connector wires (white and orange from the rod antenna and black from the shield plate).

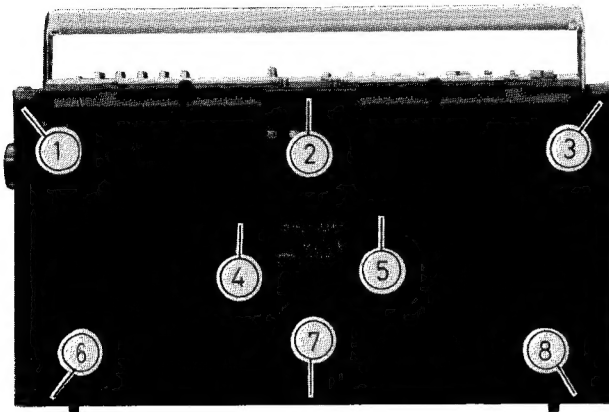


Fig. 4

2. Top panel

- Remove six knobs (VOLUME, TONE, and REC LEVEL controls).
 - Remove four screws ① through ④ (SBSF3020C).
- Note:** When reassembling, remove six slide knobs from the top panel first. After installing the panel, fit the knobs to the slide switches.

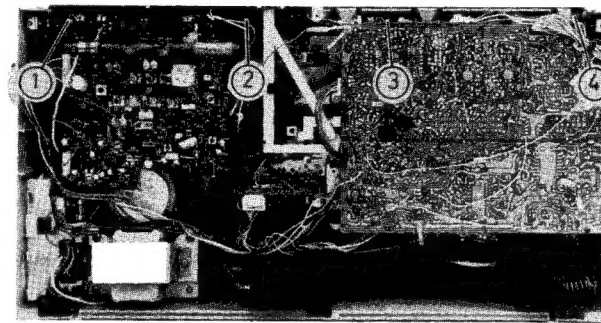


Fig. 5

3. Chassis assembly

- Move the dial needle to the left or right end.
- Remove two knobs (tuning and fine tuning). Remove two touch knobs of the automatic program selection facility MMS (see Note marked *).
- Open the cassette holder.
- Remove four screws ① through ④ (SBSB3014C).
- Disconnect 4P and 5P connectors ① and ②.
- Disconnect two connector wires ③ and ④.

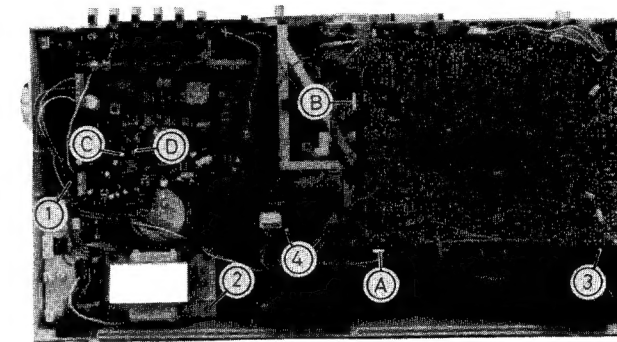


Fig. 6

Note: When reassembling, adjust the needle position with reference to the dial string.

***Note:** When removing the touch knob, hold the movable part of the switch (see below) because the switch may be damaged.

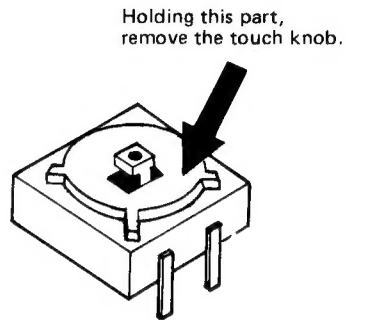


Fig. 10

3. Tuner circuit board

- Move the dial needle to the left or right end.
- Remove six screws ① through ⑥ (SBSB3012V).
- Disconnect 5P connector ① and two connector wires ② and ③.
- Remove wire clamp ④.

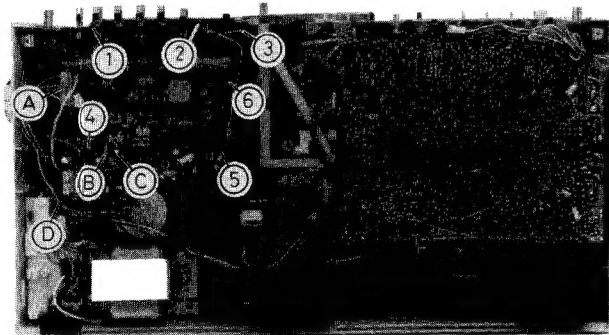


Fig. 7

Note: When reassembling, adjust the dial drum position with reference to the arm of the variable capacitor.

4. Amplifier circuit board

- Remove five screws ① through ⑤ (SBSB3012V).
- Remove wire clamp ①.
- Disconnect two 3P and one 8P connectors ②, ③, and ④. (See the Figure on the right.)

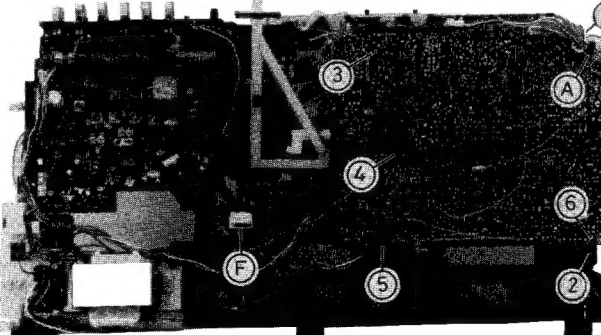


Fig. 8

Note: Remove four screws (①, ②, and ③ : SBSB3012Z, ④ : SBSB3012Z) and the jack board comes off. When reassembling, adjust the position of the FUNCTION switch with reference to the lever.

4. Cassette mechanism

- Remove seven screws ① through ⑦ (SBSB3012C).
- Disconnect 8P sockets ① (see the Figure on the left).
- Raising the motor slightly, slip it out toward you.

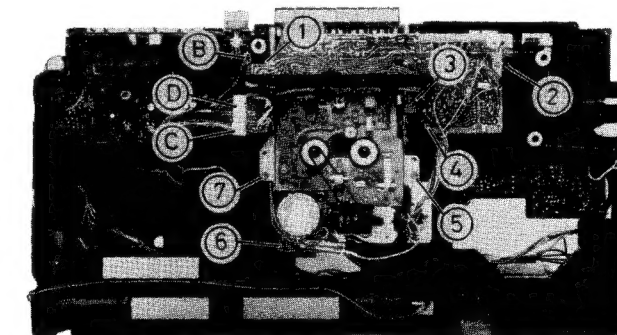


Fig. 9

Note: Remove 3P and 8P connectors ③ and ④ and the cassette mechanism can be completely separated from the chassis.

Removal of Parts of Cassette Mechanism

— See the "Exploded view of cassette mechanism". —

Removal of pinch roller assembly ④⑧

- Remove E-ring ⑤⑩.
- Note: Do not lose spring ④⑨.

Removal of record/play head ②⑥

- Remove two screws ③⑩ and ③①.
- Note: Unsolder the head board if the head is to be replaced.

Removal of erase head ③②

- Remove two screws ③⑤.

Removal of reel disk assembly ⑤⑧

- Remove E-ring ⑥⑩.
- Note: When removing the supply reel disk, do not lose back tension spring ⑤⑨ under the disk.

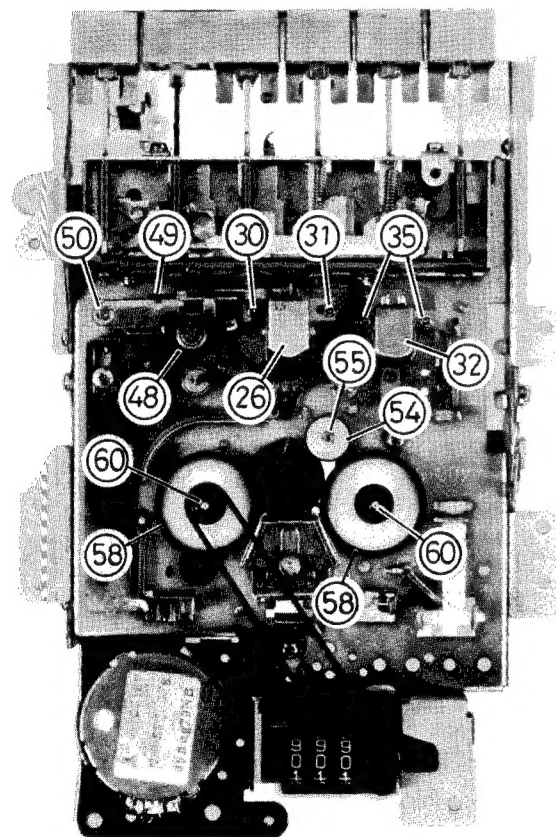


Fig. 11

Removal of rewind idler ⑤④

- Remove E-ring ⑤⑤.

Removal of main belt ①②② and flywheel ①①③

- Remove six screws ①①①, ①①②, ①①⑥, and ①①⑦.
- Note: Do not lose thrust adjusting spring ①①⑩.
- When removing the flywheel, do not lose oil prevention washer ①①⑥ on the capstan shaft.

Removal of FF idler assembly ⑥⑨

- Remove flywheel ①①③.
- Remove E-ring ⑦①.
- Remove three springs ⑦⑩, ⑦⑤, and ⑦⑦.

Removal of clutch assembly ⑥⑥

- Remove flywheel ①①③.
- Remove spring ⑥⑦.
- Remove E-ring ⑥⑧.

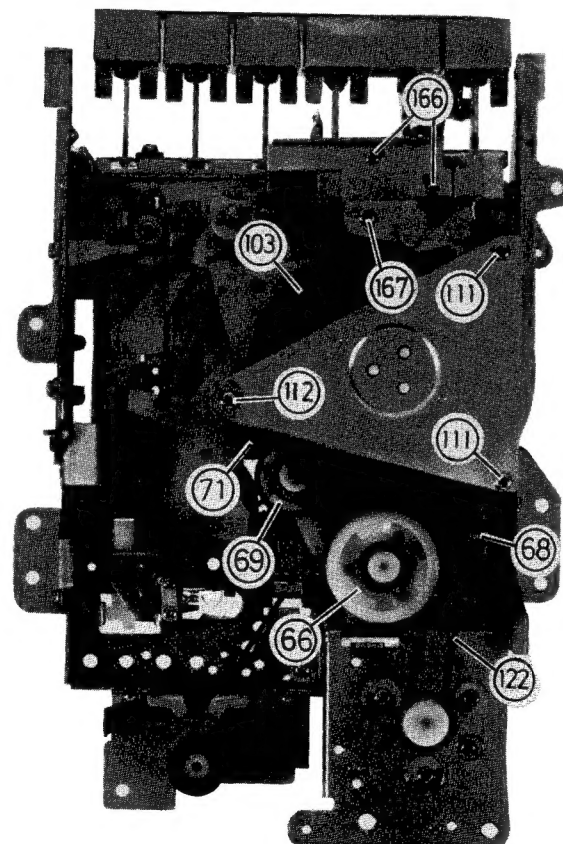


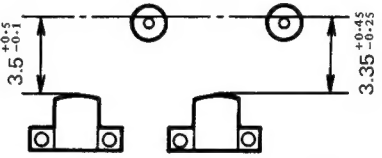
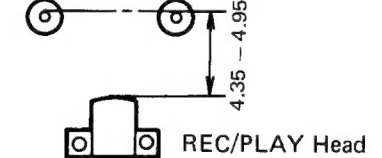


Fig. 12

Specifications of Cassette Mechanism

Check the following items after cassette mechanism parts are replaced.

| Item | Requirements | Test equipment | Test tape |
|---|---|--|---|
| 1. Source voltage | Rated voltage: 12 V DC Motor operating voltage range: 8.4 – 15 V DC | Regulated power supply | — |
| 2. Tape speed | 4.75 cm/sec +3 % (3,000 Hz) -2 % Deviation 2 % | Frequency counter (digital counter) | VTT-655 |
| 3. Wow & flutter | Less than 0.14% (CCIR, WTD) | Wow meter | VTT-655 |
| 4. Take-up torque | PLAY 40 – 70 g.cm FF 100 – 160 g.cm REW 100 – 160 g.cm | During FF and rewind, the idlers, reels and flywheel should not slip against each other when the reels are locked. Torque dial gauge (Tonichi or equivalent) | — |
| 5. Current consumption (of motor alone) | PLAY 100 mA or less FF 200 mA or less REW 200 mA or less | DC ammeter | C-60 (Take-up torque should be normal when tape is used.) |
| 6. Pinch roller pressure | 350 – 500 g | Tension gauge Pull the pinch roller perpendicularly and read the gauge when the pinch roller just stops.  | — |
| 7. Axial clearance of flywheel |  0.1 – 0.4 mm | Clearance gauge | — |
| 8. Head position during PLAY and RECORD |  3.5 ^{+0.5} _{-0.1} and 3.35 ^{+0.45} _{-0.25} | During PLAY (RECORD), the dimensional requirements given here must be met, and the heads must not contact the cassette case. | Any cassette tape |
| 9. Head position during cueing |  4.35 – 4.95 REC/PLAY Head | The dimensional requirement given here must be met when the PLAY and FF (REW) buttons are locked simultaneously. | — |
| 10. Auto-stop operation | The facility should operate with a reduced voltage of 6.5 V at the end of tape during PLAY/RECORD, FF, and REW. During REC, a load the same as that of the amplifier is applied. | | Any cassette tape |
| 11. Cueing operation | Lock PAUSE, PLAY, and FF (REW) buttons and apply 6.5 V instantly to the solenoid after the tape is wound. PAUSE and FF (REW) buttons should be released in this order. The motor should be supplied with 6.5 V. | | — |
| 12. Timer recording mechanism | During PAUSE in PLAY or RECORD mode, PAUSE button should be released when 6.5 V is applied to the solenoid. The motor should be supplied with 6.5 V. | | — |

Adjustment of Cassette Mechanism

• Pinch roller pressure

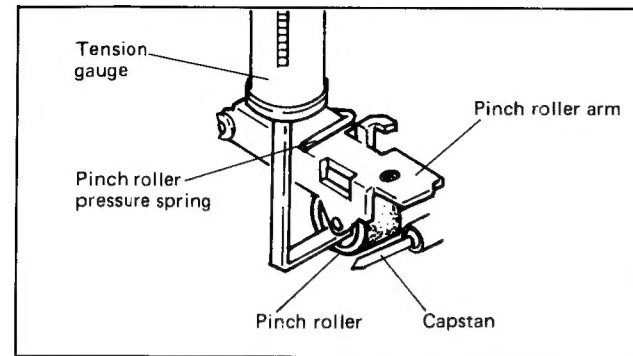


Fig. 13

- 1) Stand the mechanism upright with the motor side facing downward. Set it in the PLAY mode. Pull the projected part of the pinch roller arm slowly with a tension gauge. The gauge should read 350 – 500 grams when the pinch roller just stops to rotate.
- 2) If the gauge reading is outside the given range, replace the pinch roller spring or adjust by bending it.
- If the pressure is too great, the pinch roller bearing may generate noise. Wow & flutter may be caused when the pressure is too great or weak.

• Playback torque

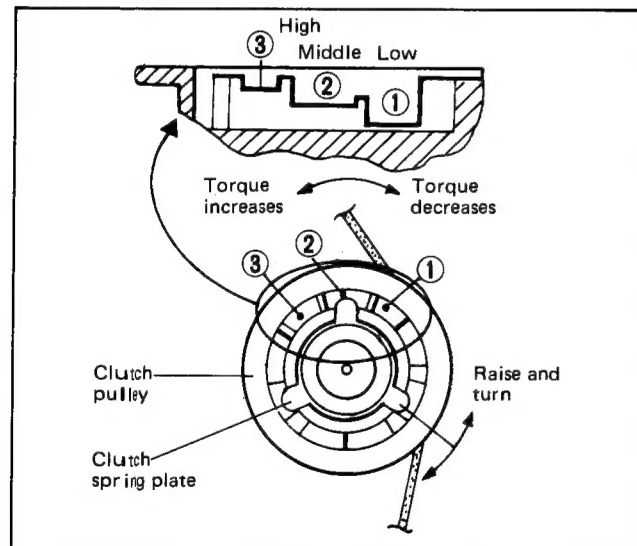


Fig. 14

- 1) Install a torque gauge on the take-up reel disk. Put the mechanism in the PLAY mode. The gauge reading should be 40 – 70 g.cm.
- 2) If the gauge reading is outside the given range, check rubber and rotating parts for the adherence of dirt and oil first. Then, if the torque is low, move the clutch spring plate to position ③ by slightly raising it. If the torque is high, move the plate to position ①.

• Fast forward/rewind torque

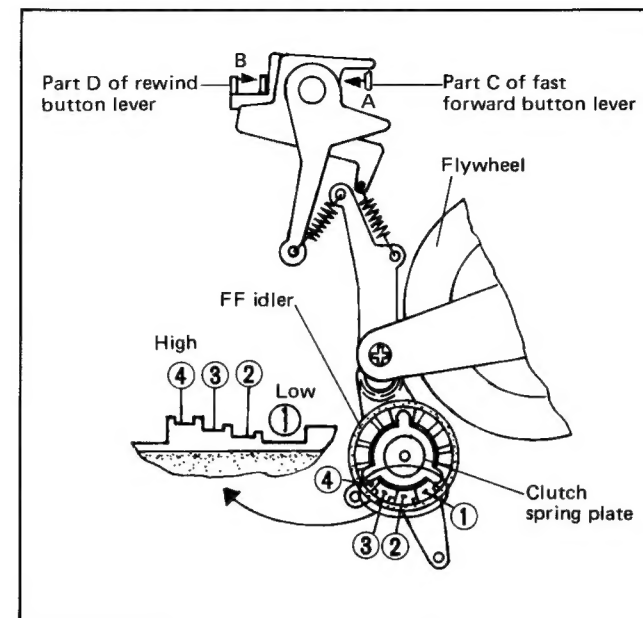


Fig. 15

1. Fast forward torque

Fit a torque gauge to the take-up reel disk and put the mechanism in the fast forward state. The gauge reading should be 100 – 160 g.cm.

- 1) If the torque is outside the given range because of insufficient pressure of the FF idler against the flywheel or unstable operation of the FF idler freewheel mechanism, bend part ③ of the fast forward button lever in direction A or move the FF idler clutch spring plate up and in the direction of ①.
- 2) If the torque is not correct even when the FF idler freewheel mechanism operates properly, move the FF idler clutch spring plate in the direction of ④.

2. Rewind torque

Fit a torque gauge to the rewind reel disk and put the mechanism into the rewind mode. The gauge reading should be 100 – 160 g.cm.

- 1) If the torque is outside the given range because of insufficient pressure of the FF idler against the flywheel or unstable operation of the FF idler freewheel mechanism, bend part ④ of the rewind button lever in the direction of B or move the FF idler clutch spring plate up and in the direction of ①.
- 2) If the torque is not correct even when the FF idler freewheel mechanism operates properly, move the FF idler clutch spring plate in the direction of ④.

Note: The torque may be incorrect if the rubber parts (the belt and idlers and the circumference of the flywheel) are not clean. If they are dirty, clean them with alcohol.

Adjustment of Cassette Recorder Amplifier

Conditions

Source power:

15 V DC

Measurement:

at DIN OUT terminal

Switch setting:

FUNCTION: TAPE or DIN IN

REC: MANU

TAPE: NORMAL or METAL

LOUDNESS: OFF

REC LEVEL: at maximum

BEAT CUT: "1 (NORMAL)"

Adjust in the following sequence.

| | |
|---|--|
| ① Head azimuth Connect an oscilloscope to the DIN OUT terminals. Using test tape VTT-658 (10 kHz, -15 dB), adjust so the phase difference between the L and R outputs is 0° and maximize the output level at the same time. | ④ Recording current Apply 1 kHz (-24 dBs) to the DIN IN terminals. Cut off bias. Adjust VR303 and VR403 so that current of 37 μ A (0.37 mV/10 ohms) flows through the head. Then adjust VR305 and VR405 so that the VU meter reads 0 dB. |
| ② Tape speed Connect a frequency counter to the DIN OUT terminals. Playing back test tape VTT656 (3,000 Hz), adjust the semi-fixed resistor in the motor so that the frequency counter reads 3,010 \pm 10 Hz. | ⑤ Bias frequency Connect a frequency counter across TP301 and 302. Adjust L501 so that the counter reads 68.5 kHz. |
| ③ Playback level Connect an electronic voltmeter to the DIN OUT terminals. Playing back test tape VTT664 (1 kHz, 16 mV), adjust VR302 and VR402 so that the voltages become 500mV. | ⑥ Bias current METAL: Connect an electronic voltmeter across TP301 and 302 (TP401 and TP402). Adjust VR301 and VR401 so that the voltmeter reads 5.5 mV/10 ohms (550 μ A). NORMAL: Adjust VR304 and VR404 so that the voltmeter reads 2.8 mV/10 ohms (280 μ A). |

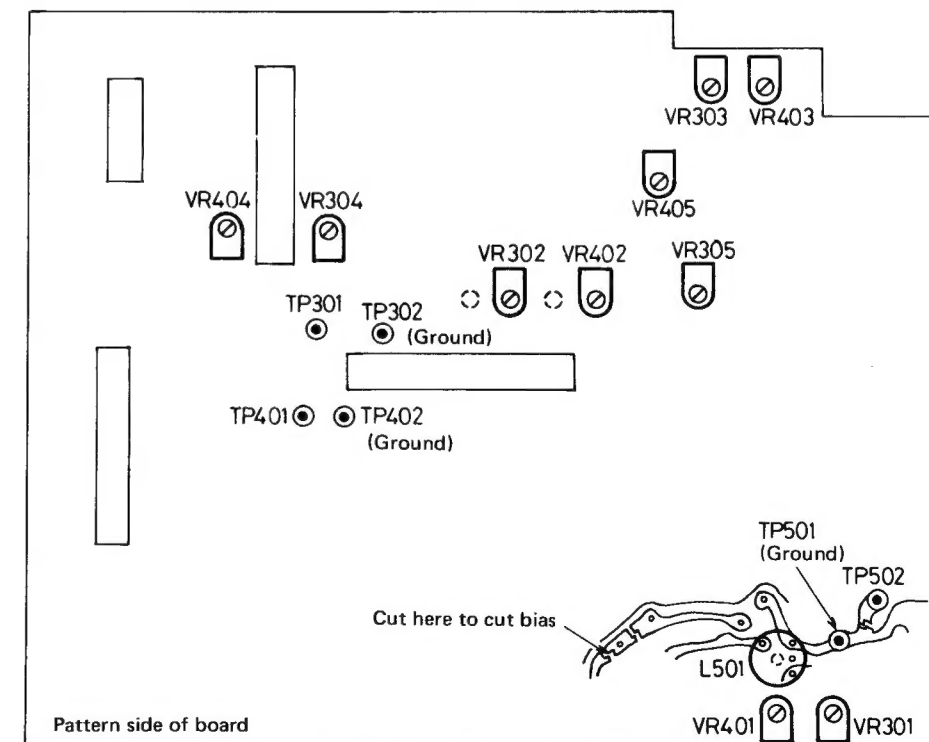


Fig. 16

Exploded View of Cassette Mechanism

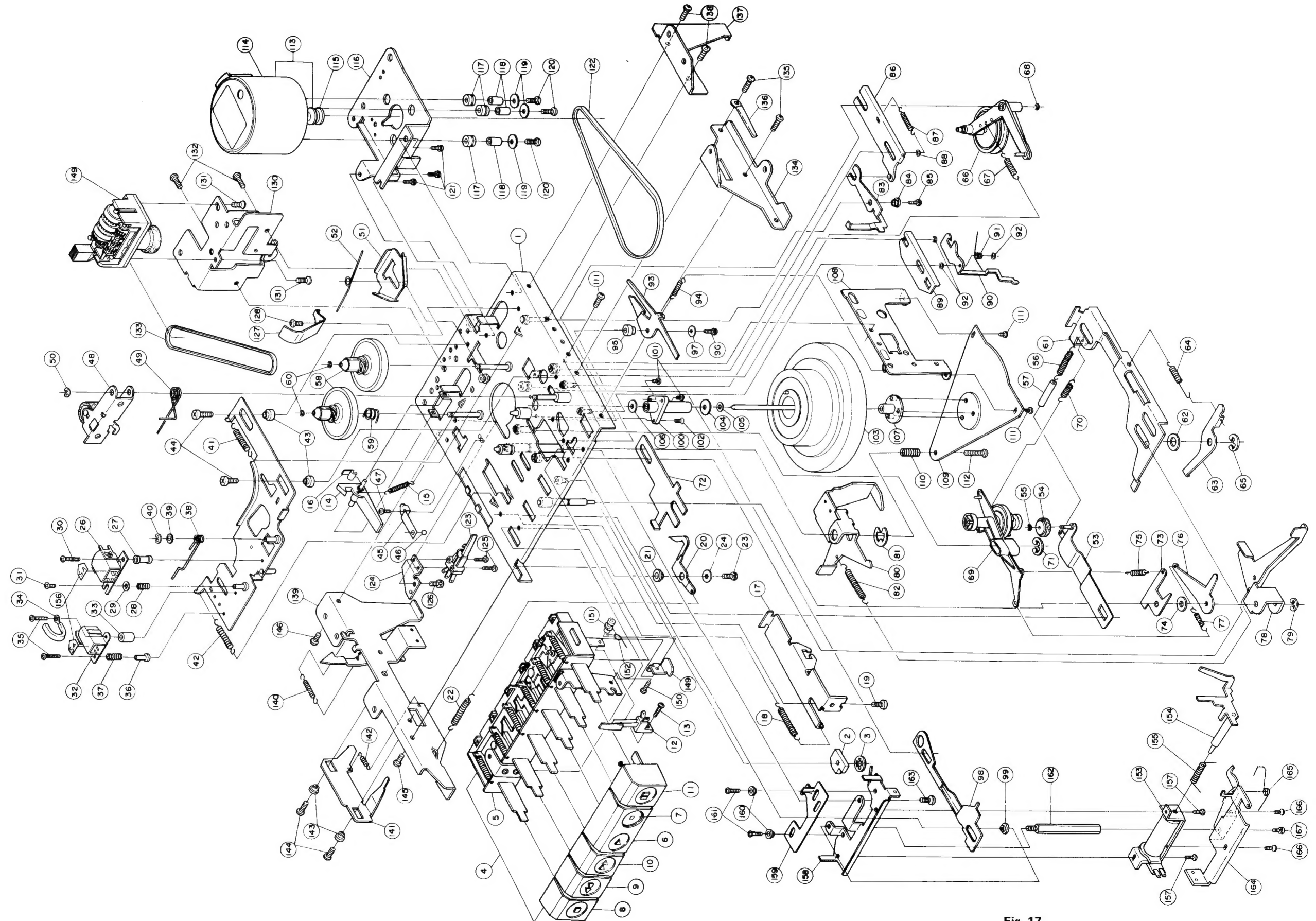


Fig. 17

Parts List of Cassette Mechanism

Asterisked parts (*) show new parts.

| Ref. No. | Parts No. | Parts Name | Description | Q'ty |
|----------|--------------|--------------------------|--------------------------------------|------|
| 1 | *15160181ZT | Mechanism Chassis | | 1 |
| 2 | 9700106T | Rubber Sheet | | 1 |
| 3 | RDS3000F | CS Ring | | 1 |
| 4 | *15160271ZT | Push Button Switch Ass'y | | 1 |
| 5 | *15160291ZT | " | | 1 |
| 6 | *VXP3043-001 | Push Button | PLAY | 1 |
| 7 | *VXP3044-001 | " | REC | 1 |
| 8 | *VXP3045-001 | " | STOP/EJECT | 1 |
| 9 | *VXP3045-002 | " | REW/REVIEW | 1 |
| 10 | *VXP3045-003 | " | FF/CUE | 1 |
| 11 | *VXP3045-004 | " | PAUSE | 1 |
| 12 | 13350216T | Leaf Switch | VSH1105-001 S634 | 1 |
| 13 | SPSP2605Z | Screw | | 1 |
| 14 | 2680503T | Record Safety Lever | | 1 |
| 15 | 1320303T | Spring | | 1 |
| 16 | 2680515T | Stopper | | 1 |
| 17 | 13340301T | Record Slide Lever | | 1 |
| 18 | 581308T | Spring | | 1 |
| 19 | 11050202T | Color Screw B | | 1 |
| 20 | 13340308T | Stopper V | | 1 |
| 21 | 030304T | Collar | | 1 |
| 22 | 1450802T | Spring | | 1 |
| 23 | SDSP2608Z | Screw | | 1 |
| 24 | WNS2600Z | Washer | | 1 |
| 25 | 13350482ZT | Head Panel Ass'y | | 1 |
| 26 | ZMM074401-0D | Rec/Play Head | SA | 1 |
| 27 | 790501T | Rec/Play Head Collar | | 1 |
| 28 | 480408T | Spring | | 1 |
| 29 | WSS2000Z | Washer | | 1 |
| 30 | SPSP2011Z | Screw | | 1 |
| 31 | SPSX2006Z | " | | 1 |
| 32 | ZMM090414-0A | Erase Head | SA | 1 |
| 33 | *15160401T | Erase Head Collar | | 1 |
| 34 | 11030405T | Wire Clamp | | 1 |
| 35 | SPSP2011Z | Screw | | 2 |
| 36 | *15160402T | Erase Head Stud | | 1 |
| 37 | 480408T | Spring | Erase Head | 1 |
| 38 | 13340801T | RQ Spring | | 1 |
| 39 | | Special Washer | $\phi 3.3 \times \phi 8 \times t0.3$ | 1 |
| 40 | REE2500 | E-Ring | | 1 |
| 41 | 4080413T | Spring | | 1 |
| 42 | 180606T | " | | 1 |
| 43 | 4080411T | Collar | | 2 |
| 44 | SDSP2604Z | Screw | | 2 |
| 45 | 10630410T | Spring Plate | | 1 |
| 46 | 020404BT | Steel Ball | $\phi 3$ | 1 |
| 47 | SPSD2604Z | Screw | | 1 |
| 48 | *15160481ZT | Pinch Roller Ass'y | | 1 |
| 49 | 6680501T | Pinch Roller Spring | | 1 |
| 50 | REE2000 | E-Ring | | 1 |
| 51 | 4080901T | Brake Arm | | 1 |
| 52 | 8200902T | Spring | | 1 |
| 53 | 9701081ZT | Rew Idler Arm Ass'y | | 1 |
| 54 | 2110902T | Rew Idler | | 1 |
| 55 | REE1500 | E-Ring | | 1 |
| 56 | 020905BT | Spring | | 1 |
| 57 | | Tube | $\phi 3.5 \times L24$ | 1 |
| 58 | 11010695ZT | Reel Disc Ass'y | | 2 |
| 59 | *15160601T | Spring | For back tension | 1 |
| 60 | REE1200 | E-Ring | | 2 |

| Ref. No. | Parts No. | Parts Name | Description | Q'ty |
|----------|--------------|-------------------------|---------------------------------------|------|
| 61 | 10710903T | Brake Operating Plate | | 1 |
| 62 | 110505T | Special Washer | $\phi 6.1 \times \phi 10 \times t0.5$ | 1 |
| 63 | 4080807T | RQ Lever | | 1 |
| 64 | 5580211T | Spring | | 1 |
| 65 | REE4000 | E-Ring | | 1 |
| 66 | *13120791ZT | Clutch Ass'y | | 1 |
| 67 | 2380406T | Spring | | 1 |
| 68 | REE2000 | E-Ring | | 1 |
| 69 | 13350891ZT | FF Idler Ass'y | | 1 |
| 70 | 581316T | Spring | | 1 |
| 71 | REE4000 | E-Ring | | 1 |
| 72 | 11820806T | RQ Operating Plate | | 1 |
| 73 | 13350801T | Rew Operating Plate | | 1 |
| 74 | 110505T | Special Washer | | 1 |
| 75 | 8780803T | Spring | | 1 |
| 76 | 4080804T | FF Operating Plate | | 1 |
| 77 | 8780303T | Spring | | 1 |
| 78 | 13340304T | Record Lever | | 1 |
| 79 | REE3000 | E-Ring | | 1 |
| 80 | *15160303T | Record Kick Lever | | 1 |
| 81 | REE5000 | E-Ring | | 1 |
| 82 | 581308T | Spring | | 1 |
| 83 | 4081503T | Arm Lever | | 1 |
| 84 | 2381304T | Collar | | 1 |
| 85 | LPSP2605Z | Ass'y Screw | | 1 |
| 86 | 4081581ZT | Slide Lever Ass'y | | 1 |
| 87 | 4081510T | Slide Lever Spring | | 1 |
| 88 | REE2000 | E-Ring | | 1 |
| 89 | 5581681ZT | Pause Slide Lever Ass'y | | 1 |
| 90 | 12391705T | Pause Lever | | 1 |
| 91 | 5421803T | Pause Spring | | 1 |
| 92 | REE1500 | E-Ring | | 3 |
| 93 | 4081405BT | Auto Lever | | 1 |
| 94 | 4081407T | Spring | | 1 |
| 95 | 13341401T | Collar | | 1 |
| 96 | LPSP2608Z | Ass'y Screw | | 1 |
| 97 | 7061501T | Special Washer | | 1 |
| 98 | 13340209T | Rec/Play Slide Lever | | 1 |
| 99 | 090302T | Collar | | 1 |
| 100 | *15161102ZT | Flywheel Metal Ass'y | | 1 |
| 101 | LPSP2005Z | Ass'y Screw | | 2 |
| 102 | SSSP2005Z | Screw | | 1 |
| 103 | 12391101ZT | Flywheel Ass'y | | 1 |
| 104 | 11011106T | Special Washer | F.L. | 1 |
| 105 | 11011107T | " | F.L. | 1 |
| 106 | 7131108T | " | Oil cut | 1 |
| 107 | 12391102T | Flywheel Bearing | | 1 |
| 108 | 12391103T | Flywheel Bracket (A) | | 1 |
| 109 | 7131106T | " (B) | | 1 |
| 110 | 580210T | Spring | | 1 |
| 111 | LPSP2604Z | Ass'y Screw | | 3 |
| 112 | SPSP2612Z | Screw | | 1 |
| 113 | *12391293ZT | Motor Ass'y | with Pulley | 1 |
| 114 | *MHI-5E2RDPB | Motor | | 1 |
| 115 | 9731202MT | Motor Pulley | | 1 |
| 116 | 8201201T | Motor Bracket | | 1 |
| 117 | T45687-001 | Rubber Cushion | | 3 |
| 118 | 4081211T | Motor Collar | | 3 |
| 119 | 031512T | Washer | | 3 |
| 120 | SPSP2607Z | Screw | | 3 |

Tuner Alignment

Output Measuring: Speaker terminal (Impedance =3.2Ω), output level 50mW (0.4V/3.2Ω)

AM IF & RF Alignment

Input (SSG) Modulation 400Hz, Modulated to 30%

| Ref. No. | Parts No. | Parts Name | Description | Q'ty |
|----------|---------------|---------------------|------------------------|------|
| 121 | LPSP2604Z | Ass'y Screw | S506 | 3 |
| 122 | 9731201CT | Main Belt | | 1 |
| 123 | 6251804T | Main Switch | | 1 |
| 124 | 8201801T | Main Bracket | | 1 |
| 125 | SDSP2008Z | Screw | | 2 |
| 126 | LPSP2604Z | Ass'y Screw | | 1 |
| 127 | 6010101T | Back Spring | | 1 |
| 128 | SPSP2604Z | Screw | | 1 |
| 129 | *VKC5129-001T | Tape Counter | | 1 |
| 130 | *15161601T | Counter Bracket | | 1 |
| 131 | SSSB2608Z | Screw | | 2 |
| 132 | SPSD2604Z | " | | 2 |
| 133 | 8001602T | Counter Belt | | 1 |
| 134 | *15161802T | Side Bracket (A) | | 1 |
| 135 | SPSD2604Z | Screw | | 2 |
| 136 | 4660901T | Wire Clamp | | 1 |
| 137 | *15161803T | Side Bracket (B) | | 1 |
| 138 | SPSD2604Z | Screw | | 2 |
| 139 | *15161381ZT | Eject Bracket Ass'y | | 1 |
| 140 | 581205T | Spring | | 1 |
| 141 | 15161302T | Eject Lever | | 1 |
| 142 | 581205T | Spring | | 1 |
| 143 | 9071904T | Collar | | 2 |
| 144 | SPSD2606Z | Screw | | 2 |
| 145 | SPSD3010Z | " | | 1 |
| 146 | SPSD2604Z | " | Blank No. Blank No. | 1 |
| 147 | | | | |
| 148 | | | | |
| 149 | *15160212T | Pause Lever Bracket | | 1 |
| 150 | 13350295T | Special Screw | | 1 |
| 151 | 13350217T | Collar | | 1 |
| 152 | 13350218T | Spring | | 1 |
| 153 | 10411481ZT | Arm Ass'y | | 1 |
| 154 | *15161481ZT | Plunger Ass'y | | 1 |
| 155 | 12391620T | Spring | | 1 |
| 156 | THC037417-02 | Head Plate | SA Mark | 2 |
| 157 | SPSP2003Z | Screw | | 2 |
| 158 | 13351702T | Bracket (R) | | 1 |
| 159 | 8781612T | Auto Lever Plate | | 1 |
| 160 | 8781613T | Collar | | 2 |
| 161 | SDSP2004Z | Screw | | 2 |
| 162 | 12391601T | Ass'y Stud | | 1 |
| 163 | SDSP2605Z | Screw | | 1 |
| 164 | 12391781ZT | Pause Plate Ass'y | | 1 |
| 165 | 12391704T | Spring | | 1 |
| 166 | SPSP2003Z | Screw | | 2 |
| 167 | LPSP2605Z | Ass'y Screw | | 1 |

| Step | Frequency Band | Input Signal | | Place to be aligned | Set the V. Capacitor to |
|------|----------------|--|-----------------------------------|---------------------|-------------------------|
| | | Frequency | Given to | | |
| 1 | MW (IF) | 455kHz | Loop Antenna | T4,5,3 | Minimum |
| 2 | | Repeat the Step 1, and adjust for no further improvement. | | | |
| 3 | LW | 145kHz | Loop Antenna | L14 | Maximum |
| 4 | | 360kHz | | C68 | Minimum |
| 5 | | Repeat the Steps 3 & 4. | | | |
| 6 | | 160kHz | Loop Antenna | L9 | 160kHz Signal |
| 7 | | 350kHz | | C65 | 350kHz Signal |
| 8 | | Repeat the Steps 6 & 7, and adjust for no further improvement. | | | |
| 9 | MW | 520kHz | Loop Antenna | L13 | Maximum |
| 10 | | 1650kHz | | C71 | Minimum |
| 11 | | Repeat the Steps 9 & 10. | | | |
| 12 | | 600kHz | Loop Antenna | L8 | 600kHz Signal |
| 13 | | 1400kHz | | C64 | 1400kHz Signal |
| 14 | | Repeat the Steps 12 & 13, and adjust for no further improvement. | | | |
| 15 | SW1 | 2.2MHz | Rod Antenna through Dummy Antenna | L15 | Maximum |
| 16 | | 6.3MHz | | C69 | Minimum |
| 17 | | Repeat the Steps 15 & 16. | | | |
| 18 | | 2.3MHz | Rod Antenna through Dummy Antenna | L10 | 2.3MHz Signal |
| 19 | | 6.0MHz | | C66 | 6.0MHz Signal |
| 20 | | Repeat the Steps 18 & 19, and adjust for no further improvement. | | | |
| 21 | SW2 | 5.90MHz | Rod Antenna through Dummy Antenna | L16 | Maximum |
| 22 | | 6.30MHz | | C70 | Minimum |
| 23 | | Repeat the Steps 21 & 22. | | | |
| 24 | | 5.9MHz | Rod Antenna through Dummy Antenna | L12 | 5.9MHz Signal |
| 25 | | 6.3MHz | | C67 | 6.3MHz Signal |
| 26 | | Repeat the Steps 24 & 25, and adjust for no further improvement. | | | |
| 27 | SW3 | 5.8MHz | Rod Antenna through Dummy Antenna | L17 | Maximum |
| 28 | | 18.6MHz | | C8 | Minimum |
| 29 | | Repeat the Steps 27 & 28. | | | |
| 30 | | 6MHz | Rod Antenna through Dummy Antenna | L11 | 6MHz Signal |
| 31 | | 18MHz | | C7 | 18MHz Signal |
| 32 | | Repeat the Steps 30 & 31, and adjust for no further improvement. | | | |

FM IF & Discriminator Alignment

Input (Sweep Generator) : TP3 (hot) & TP2

Output (Oscilloscope) : IF TP4 (hot) & TP7
Discriminator TP6 (hot) & TP7

| Step | Mode | Place to be aligned | Wave form |
|------|---------------|---------------------|-----------|
| 1 | IF | T1 | Fig. 18 |
| 2 | Discriminator | T2 | Fig. 19 |

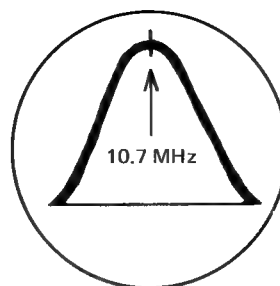


Fig. 18

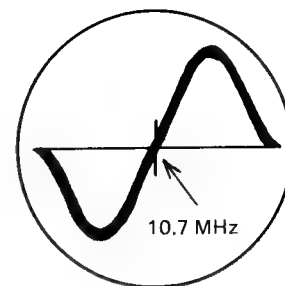


Fig. 19

FM RF Alignment

Input (SSG) : Use 75 Ω terminal, modulation 400 Hz modulated to 22.5 kHz deviation. Connect Hot side to TP1 and Cold side to TP2.

| Step | Frequency Band | Input Signal | | Place to be aligned | Set the V. Capacitor to |
|------|----------------|--|-----------|---------------------|-------------------------|
| | | Frequency | Given to | | |
| 1 | FM | 87.5 MHz | TP1 & TP2 | L4 | Maximum |
| 2 | | 109 MHz | | C4 | Minimum |
| 3 | | Repeat the Steps 1 & 2. | | | |
| 4 | | 90 MHz | TP1 & TP2 | L1 | 90 MHz Signal |
| 5 | | 106 MHz | | C2 | 106 MHz Signal |
| 6 | | Repeat the Steps 4 & 5, and adjust for no further improvement. | | | |

FM MPX Alignment

A. 19 kHz Alignment (regular Method)

1. Connect a frequency counter to the test point TP5.
2. Adjust the variable resistor R31 so that the frequency becomes 19 kHz \pm 250 Hz.

B. 19 kHz Alignment (Simplified Method)

1. Tune to a FM stereo broadcast.
2. Set the variable resistor R31 to the center position of the range in where the stereo indicator keeps lighting.

C. Separation Alignment

1. Connect a FM stereo signal generator across the test points TP1 & TP2. (98 MHz, 60 dB)
2. Connect a V.T.V.M. or oscilloscope across the test points TP6 & TP7.
3. Adjust the variable resistor R34 to minimize the output of right channel signal.

Parts Arrangement for Alignment

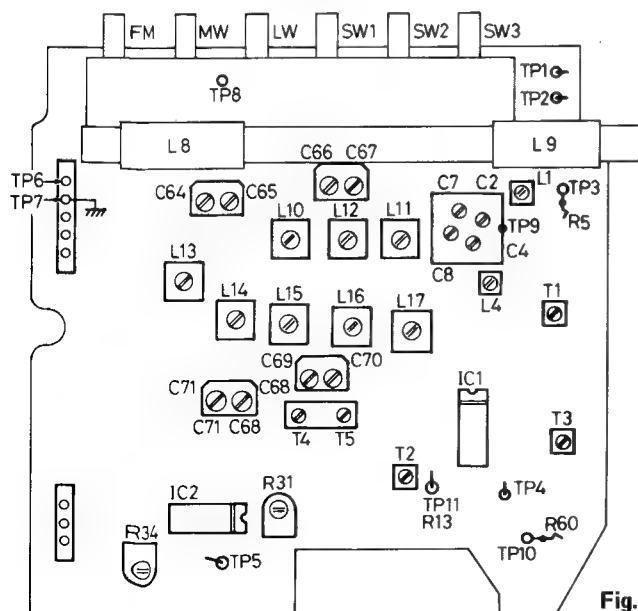
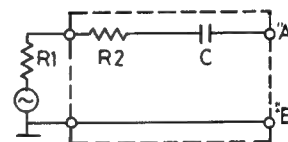


Fig. 20

Dummy Antenna



$$R1 + R2 = 80 \Omega$$

$$C = 10 \text{ pF}$$

R1: Output impedance of S.S.G.

Fig. 21

How to Engage Dial Cord

1. Turn the dial drum fully counterclockwise (to the lowest frequency).
2. Use Kevlar cord (1,910 mm long and 0.5 mm in diameter).
3. Install the string in the sequence of the numbers.
4. Align the needle holder (disk) with the white circle mark on the MMS LED Circuit Board.

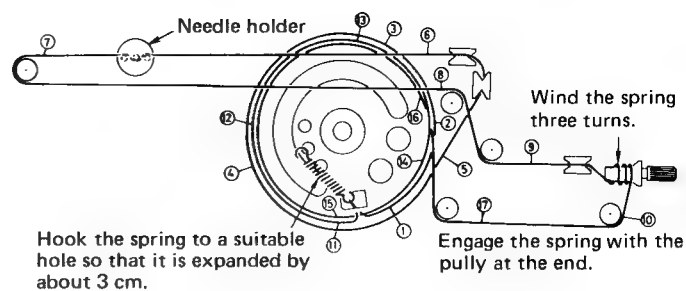


Fig. 22

Block Diagrams

Amplifier

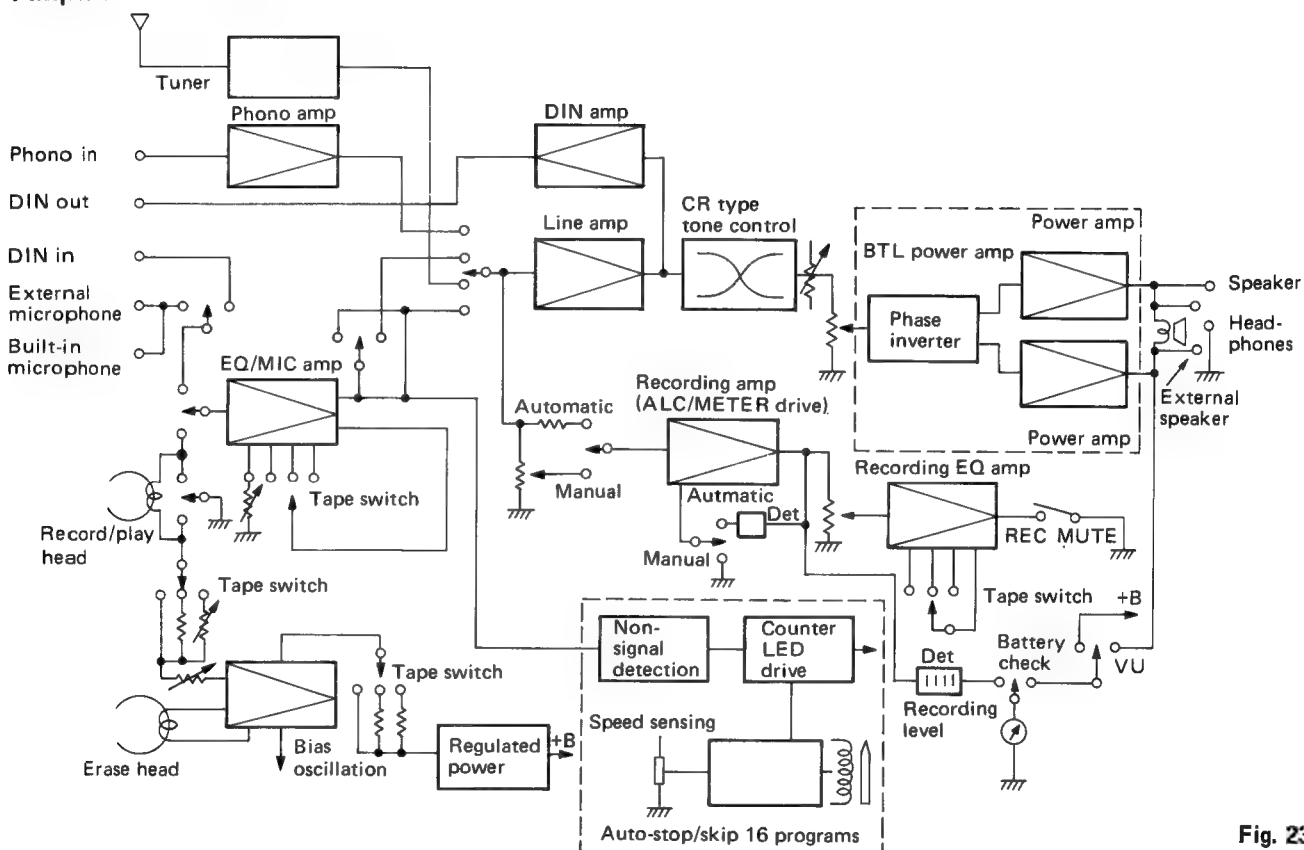


Fig. 23

Tuner

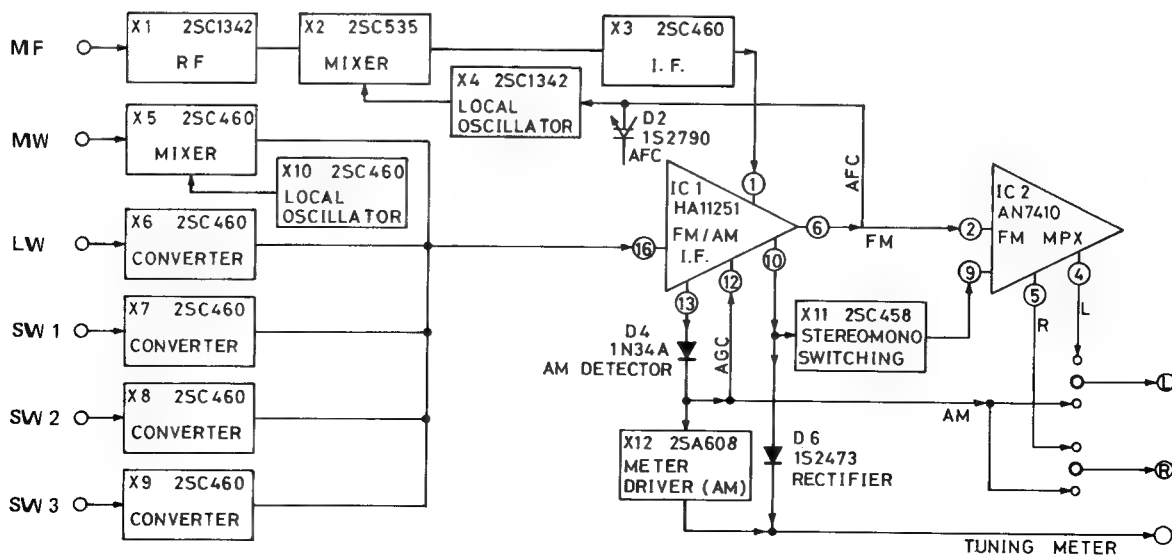


Fig. 24

Schematic Diagram of RC-M70L/LB(Tuner)

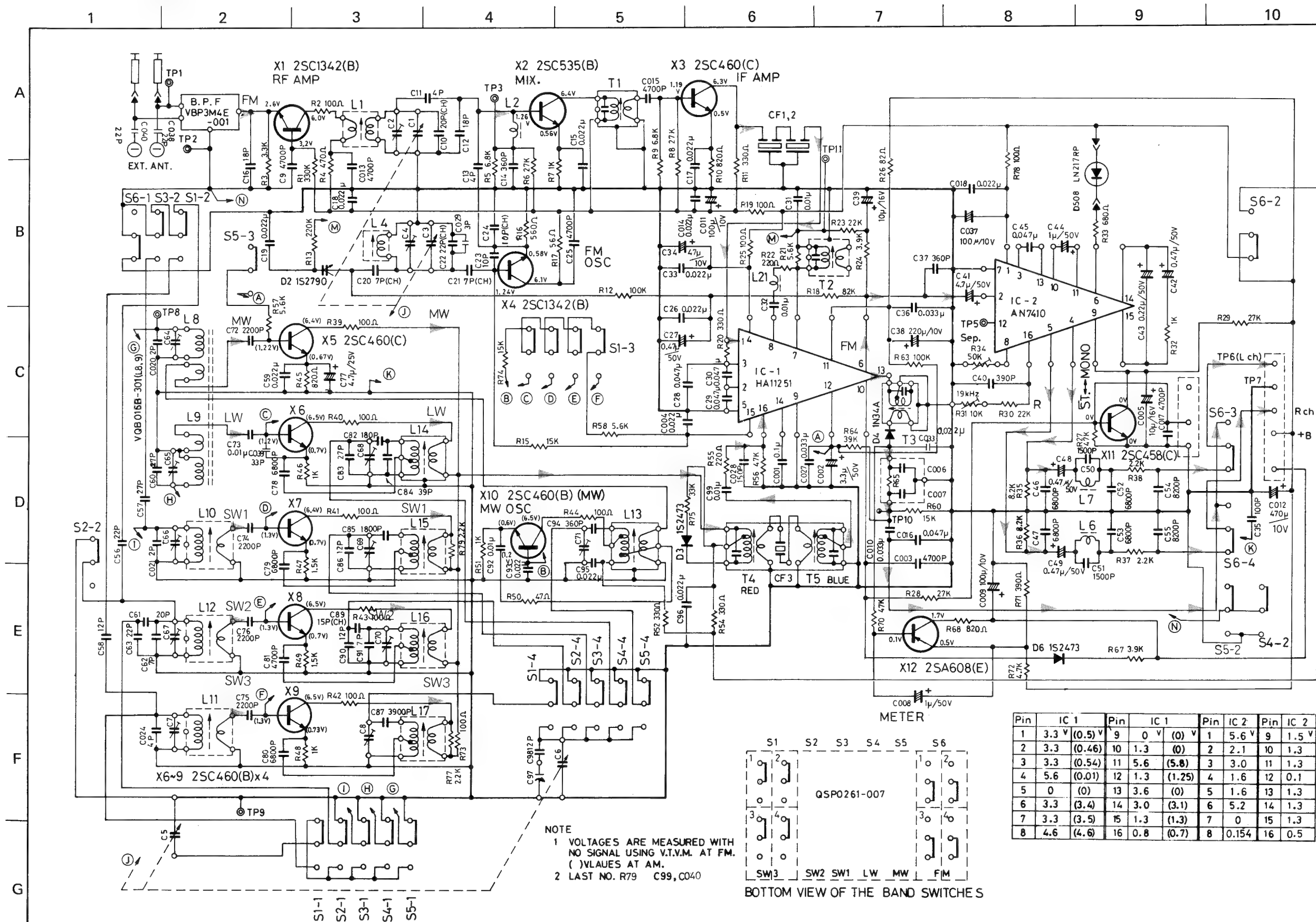


Fig. 25

Schematic Diagram of RC-M70L/LB(MMS Control)

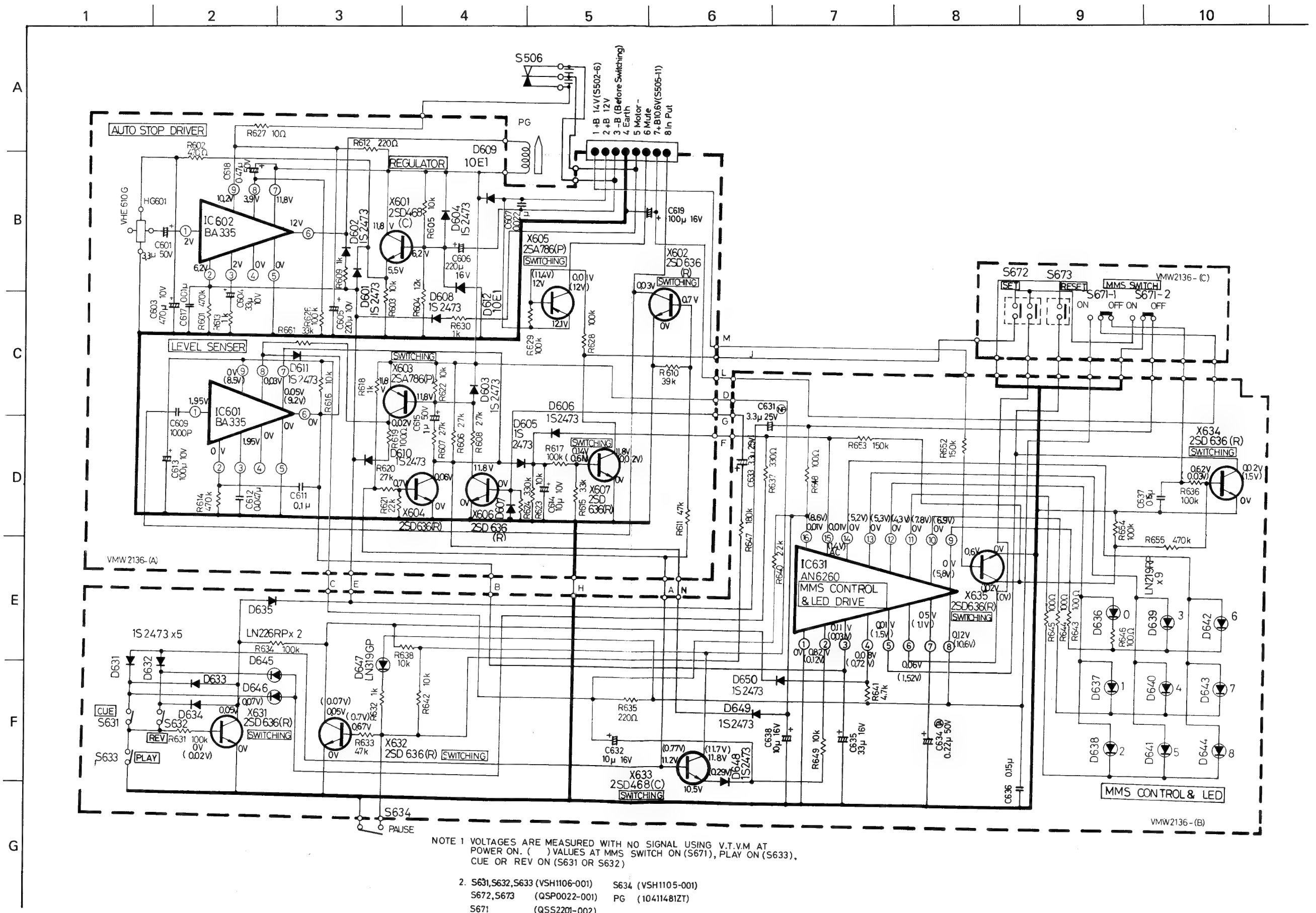


Fig. 26

Schematic Diagram of RC-M70L/LB (Amplifier)

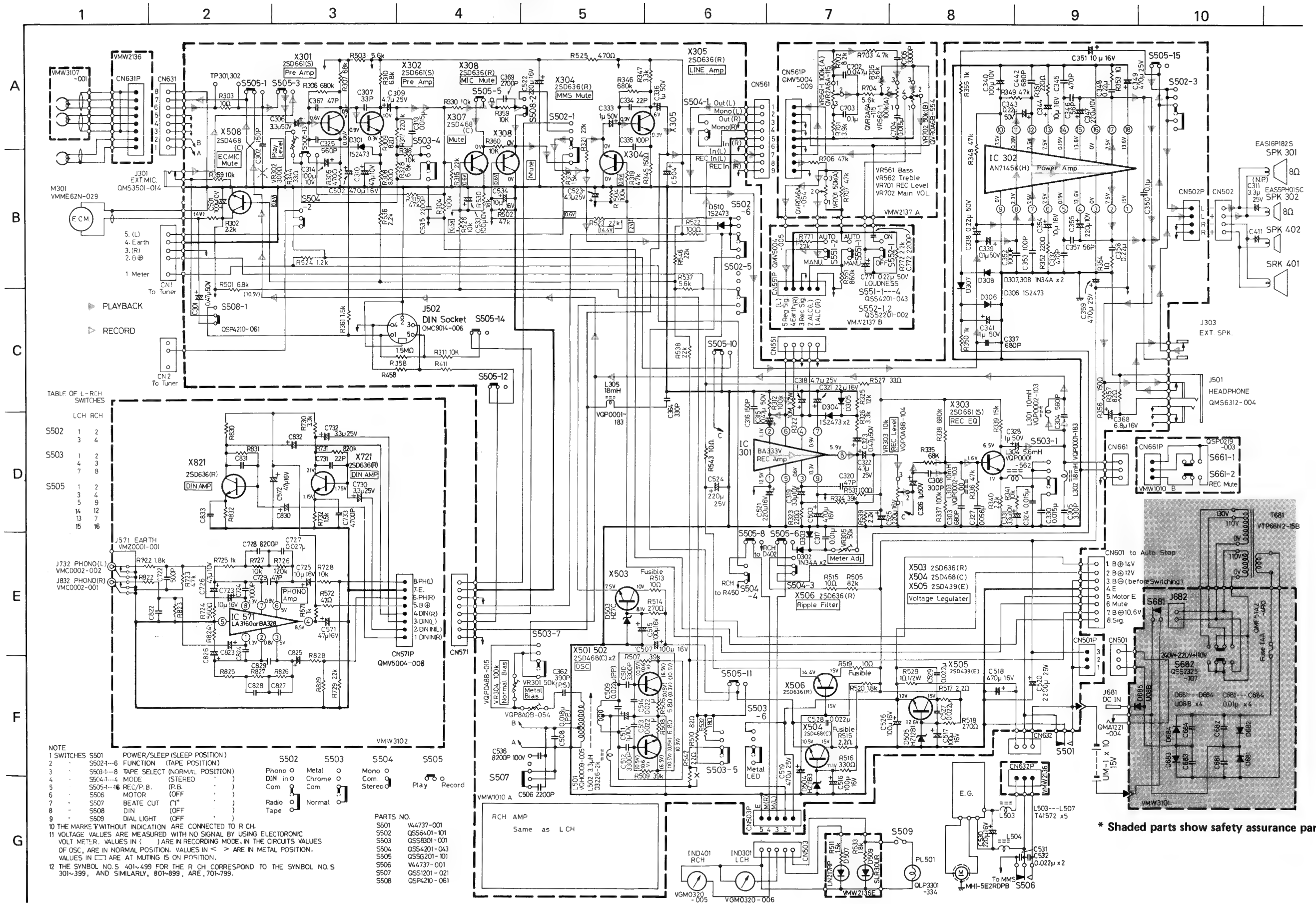
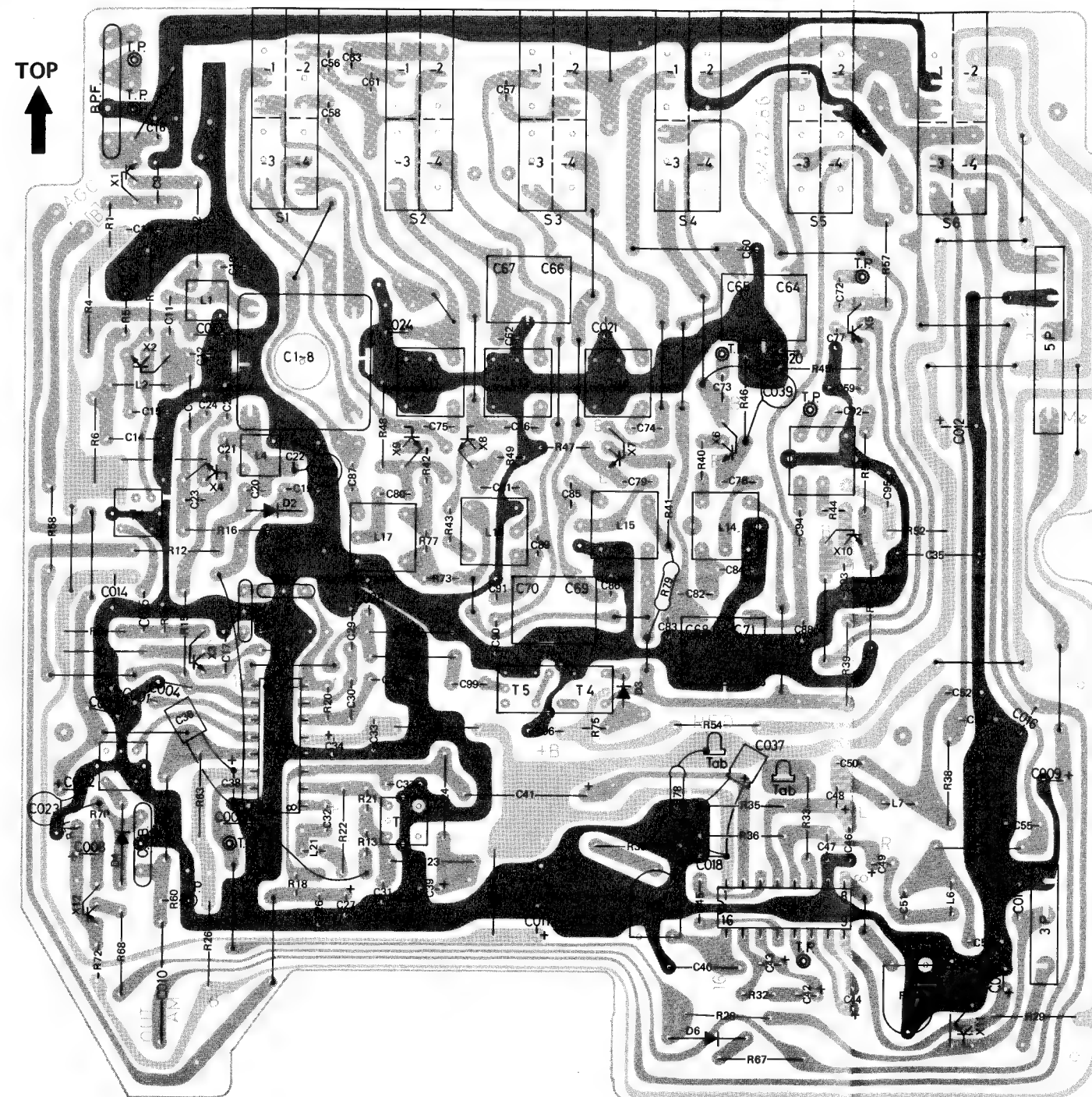


Fig. 27

Tuner, Volume and Switch Circuit Board Assemblies



Tuner Circuit Board Ass'y

Positive line
Common line

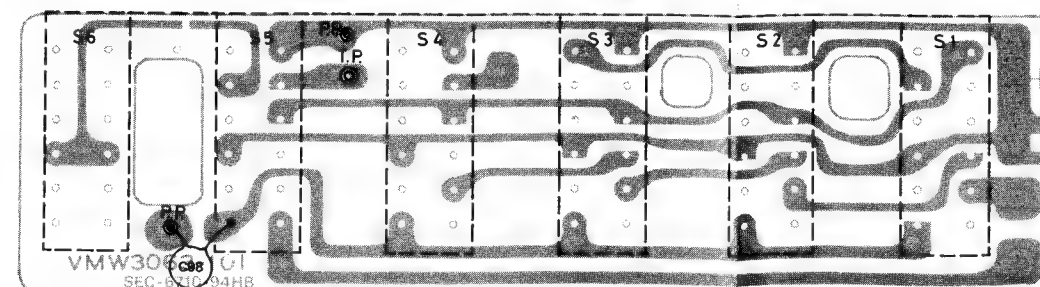
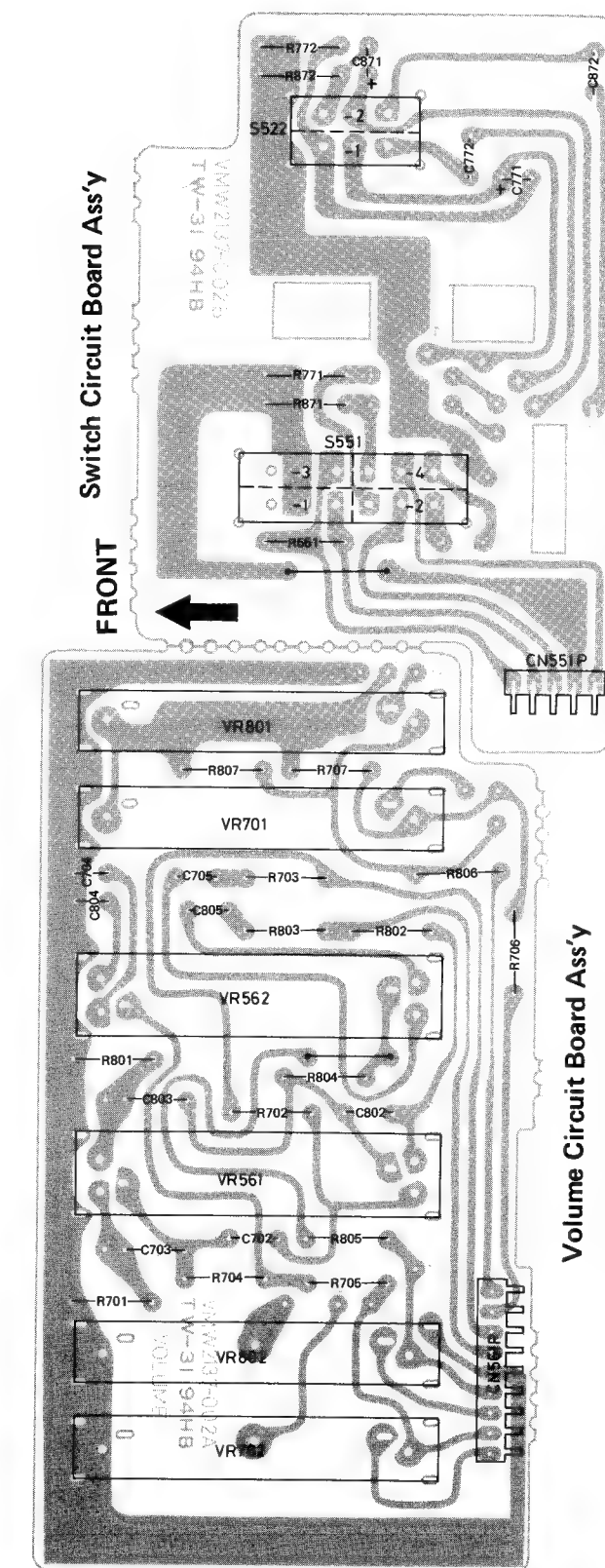


Fig. 28



Note: The circuit board assembly will not be available as spare part.

Tuner Circuit Board Ass'y

Transistors

| Ref. No. | Parts No. | Description | Pc | fT |
|-------------|------------|-------------------|-------|---------|
| X1,4 | 2SC1342(B) | Silicon (HITACHI) | 0.1 W | 250 MHz |
| X2 | 2SC535(B) | " (") | " | 940 MHz |
| X3,5 | 2SC460(C) | " (") | 0.2 W | 230 MHz |
| X6,7,8,9,10 | 2SC460(B) | " (") | " | " |
| X11 | 2SC458(C) | " (") | " | " |
| X12 | 2SA608(E) | " (SANYO) | 0.1 W | 180 MHz |

ICs & Diodes

| Ref. No. | Parts No. | Parts Name | Description |
|----------|-----------|----------------------------|-------------|
| IC1 | HA11251 | Integrated Circuit | HITACHI |
| IC2 | AN7410 | " | MATSUSHITA |
| D2 | MA345 | Variable Capacitance Diode | " |
| D3,6 | 1S2473 | Silicon Diode | TOYO DENGU |
| D4 | 1N34A | Germanium Diode | HITACHI |

Resistors

| Ref. No. | Parts No. | Parts Name | Description |
|-------------------|--------------|------------|-----------------------|
| R1 | QRD143K-334 | Carbon | 330 k Ω 1/4 W |
| R2,19,25,39,41,78 | QRD141K-101 | " | 100 Ω " |
| R3 | " -332 | " | 3.3 k Ω " |
| R4 | " -471 | " | 470 Ω " |
| R5 | " -682 | " | 6.8 k Ω " |
| R6,28,29 | " -273 | " | 27 k Ω " |
| R7,46,48,51 | " -102 | " | 1 k Ω " |
| R8 | QRD143K-273 | " | 27 k Ω " |
| R9 | " -682 | " | 6.8 k Ω " |
| R10 | " -821 | " | 820 Ω " |
| R11,54 | QRD141K-331 | " | 330 Ω " |
| R12,27,63 | " -104 | " | 100 k Ω " |
| R13 | QRD143K-224 | " | 220 k Ω " |
| R15,60,74 | QRD141K-153 | " | 15 k Ω " |
| R16 | " -561 | " | 560 Ω " |
| R17 | " -560 | " | 56 Ω " |
| R18 | QRD143K-823 | " | 82 k Ω " |
| R20,52 | " -331 | " | 330 Ω " |
| R21 | " -562 | " | 5.6 k Ω " |
| R22,55 | QRD141K-221 | " | 220 Ω " |
| R23,30 | " -223 | " | 22 k Ω " |
| R24,67 | " -392 | " | 3.9 k Ω " |
| R26 | " -820 | " | 82 Ω " |
| R31 | QVP8A0B-014 | Variable | 10 k Ω B-curve |
| R32 | QRD143K-152 | Carbon | 1.5 k Ω 1/4 W |
| R33 | QRD141K-681 | " | 680 Ω " |
| R34 | QVP8A0B-054A | Variable | 50 k Ω B-curve |
| R35,36 | QRD141K-822 | Carbon | 8.2 k Ω 1/4 W |
| R37,38,79 | " -222 | " | 2.2 k Ω " |
| R40,42,43,44,73 | QRD143K-101 | " | 100 Ω " |
| R45,68 | QRD141K-821 | " | 820 Ω " |

Resistors

| Ref. No. | Parts No. | Parts Name | Description | |
|----------|-------------|------------|----------------|-------|
| R47,49 | QRD143K-152 | Carbon | 1.5 k Ω | 1/4 W |
| R50 | QRD141K-470 | " | 47 Ω | " |
| R56 | " -473 | " | 47 k Ω | " |
| R57,58 | " -562 | " | 5.6 k Ω | " |
| R64 | " -393 | " | 39 k Ω | " |
| R70 | QRD143K-473 | " | 47 k Ω | " |
| R71 | " -391 | " | 390 Ω | " |
| R72 | " -472 | " | 4.7 k Ω | " |
| R75 | " -333 | " | 33 k Ω | " |
| R77 | QRD143K-222 | Carbon | 2.2 k Ω | 1/4 W |

Capacitors

| Ref. No. | Parts No. | Parts Name | Description | |
|--|--------------|--------------|---------------|------|
| C1~8 | QAP1224-511V | Variable | | |
| C9,25,003,013,015,017 | QCF11HP-472 | Ceramic | 4700 pF | 50 V |
| C10 | QCT05CH-200 | " | 20 pF | " |
| C11,13,024 | QCS11HJ-4R0 | " | 4 pF | " |
| C12,16 | " -180 | " | 18 pF | " |
| C14 | QFS21HJ-361 | Polystyrol | 360 pF | " |
| C15,17,19,26,33,59 93,96,004,018 023 | QCF11EZ-223 | Ceramic | 0.022 μ F | 25 V |
| C18,95,014,016 | QFM41HM-223 | Mylar | " | " |
| C20,21,91 | QCT05CH-7R0 | Ceramic | 7 pF | " |
| C22 | " -220 | " | 22 pF | " |
| C23 | QCS11HJ-100 | " | 10 pF | " |
| C24 | QCT05CH-100 | " | " | " |
| C27,48,49 | QET41HR-474 | Electrolytic | 0.47 μ F | " |
| C28,29,30,45 | QFM41HM-473 | Mylar | 0.047 μ F | " |
| C31,32,73,99 | QCF11EZ-103 | Ceramic | 0.01 μ F | 25 V |
| C34 | QET41AR-476 | Electrolytic | 47 μ F | 10 V |
| C35 | QCS11HJ-101 | Ceramic | 100 pF | 50 V |
| C36,010,027 | QFM41HM-333 | Mylar | 0.033 μ F | " |
| C37 | QCS11HJ-361 | Ceramic | 360 pF | " |
| C38 | QET41AR-227 | Electrolytic | 220 μ F | 10 V |
| C39,005 | QET41CR-106 | " | 10 μ F | 16 V |
| C40 | QFS21HJ-391 | Polystyrol | 390 pF | " |
| C41 | QEW21EA-475 | Electrolytic | 4.7 μ F | 25 V |
| C42 | QEC41HM-474 | " | 0.47 μ F | 50 V |
| C43 | " -224 | " | 0.22 μ F | " |
| C44,008 | QET41HR105 | Mylar | 1 μ F | " |
| C46,47,78,79,80 | QFM41HM-682 | " | 6800 pF | " |
| C50,51 | QCY41HK-152 | Ceramic | 1500 pF | " |
| C52,53 | " -682 | " | 6800 pF | " |
| C54,55 | " -822 | " | 8200 pF | " |
| C56,63 | QCS11HJ-220 | " | 22 pF | " |
| C57,60,83 | " -270 | " | 27 pF | " |
| C58,86,90,98 | " -120 | " | 12 pF | " |
| C61 | " -200 | " | 20 pF | " |
| C62 | " -7R0 | " | 7 pF | " |
| C64,65,66,67,68,69 70,71 | QAT2002-001 | Trimmer | | |
| C72,74,75,76 | QCY41HK-222 | Ceramic | 2200 pF | 50 V |
| C77 | QET41ER-475 | Electrolytic | 4.7 μ F | " |
| C81 | QCY41HK-472 | Ceramic | 4700 pF | " |

Capacitors

| Ref. No. | Parts No. | Parts Name | Description |
|--------------|-------------|-----------------|------------------|
| C82 | QFS41HJ-182 | Polystyrol | 1800 pF 50V |
| C84 | QCS11HJ-390 | Ceramic | 39 pF " |
| C85 | QFS41HJ-182 | Polystyrol | 1800 pF " |
| C87 | " -392 | " | 3900 pF " |
| C88,029 | QCS11HJ-3R0 | Ceramic | 3 pF " |
| C89 | QCT05CH-150 | " | 15 pF " |
| C92 | QCY41EK-103 | " | 0.01 μ F 25V |
| C94 | QFS41HJ-361 | Polystyrol | 360 pF 50V |
| C97 | QAT5001-201 | Midget Variable | |
| C001 | QCF11HP-104 | Ceramic | 0.1 μ F " |
| C002 | QET41HR-335 | Electrolytic | 3.3 μ F " |
| C009,011,037 | " -107 | " | 100 μ F " |
| C012 | QET41AR-477 | " | 470 μ F 10V |
| C020,021 | QCS11HJ-2R0 | Ceramic | 2 pF 50V |
| C028 | " -151 | " | 150 pF " |
| C039 | " -330 | " | 33 pF " |

Others

| Ref. No. | Parts No. | Parts Name | Description |
|----------|-------------|------------------|-----------------------|
| B.P.F. | VBP3M4E-001 | Band Pass Filter | FM Antenna |
| CF1,2 | V03059-016 | Ceramic Filter | FM I.F. |
| C.R.B. | 03126-15 | CR Block | includes R65,C006,007 |
| L1 | VQF1B12-001 | Coil | FM RF |
| L2 | 03226-1K | Inductor | FM IF Trap |
| L4 | V03105-029 | Coil | FM Osc. |
| L6,7 | VQP0002-393 | Inductor | |
| L8,9 | VQB016B-302 | Bar Antenna | |
| L10 | VQR1001-306 | Coil | SW1 Antenna |
| L11 | VQR1001-202 | " | SW3 Antenna |
| L12 | " -207 | " | SW2 Antenna |
| L13 | VQM1T03-301 | " | MW Osc. |
| L14 | 46923-42 | " | LW Osc. |
| L15,16 | 03160-74 | " | SW1,2 |
| L17 | VQS1S02-302 | " | SW3 Osc. |
| L21 | 03226-024 | Inductor | |
| T1,2 | V03068-7 | I.F.T. | FM |
| T3 | VQT7A11-301 | " | AM |
| T4,5,CF3 | V03067-026 | " | AM |
| S1~6 | QSP0261-007 | Push Switch | BAND |
| T. Pin | A74138-2 | Test Pin | |
| T.P. | V04041-1 | Test Point | |
| 5-P | QMC0529-001 | Plug Ass'y | 5-pin |
| 3-P | QMC0329-001 | " | 3-pin |
| P. Pin | VMZ0005-001 | Post Pin | |

Volume Circuit Board Ass'y

Resistors

| Ref. No. | Parts No. | Parts Name | Description |
|---------------------|--------------|------------------|------------------------|
| R701, 801 | QRD141J-392S | Carbon | 3.9 k Ω 1/4 W |
| R702, 802 | " -822S | " | 8.2 k Ω " |
| R703, 803 | " -472S | " | 4.7 k Ω " |
| R704, 804 | " -562S | " | 5.6 k Ω " |
| R705, 805 | " -561S | " | 560 Ω " |
| R706, 707, 806, 807 | " -473S | " | 47 k Ω " |
| VR561, 562 | QVR2A6A-115 | Variable (Slide) | 100 k Ω A-Curve |
| VR701, 801 | QVR0A6A-054 | " (") | 50 k Ω " |
| VR702, 802 | QVR0A6B-554 | " (") | 50 k Ω B-Curve |

Capacitors

| Ref. No. | Parts No. | Parts Name | Description |
|-----------|-------------|------------|--------------------|
| C702, 802 | QFM41HK-473 | Mylar | 0.047 μ F 50 V |
| C703, 803 | " -104 | " | 0.1 μ F " |
| C704, 804 | " -153 | " | 0.015 μ F " |
| C705, 805 | QCY41HK-332 | Ceramic | 3300 pF " |

Others

| Ref. No. | Parts No. | Parts Name | Description |
|----------|-------------|------------|-------------|
| CN561-P | QMV5004-009 | Connector | 9-pin |

Switch Circuit Board Ass'y

Resistors

| Ref. No. | Parts No. | Parts Name | Description |
|-----------|--------------|------------|----------------------|
| R551 | QRD141J-564S | Carbon | 560 k Ω 1/4 W |
| R771, 871 | " -273S | " | 27 k Ω " |
| R772, 872 | " -222S | " | 2.2 k Ω " |

Capacitors

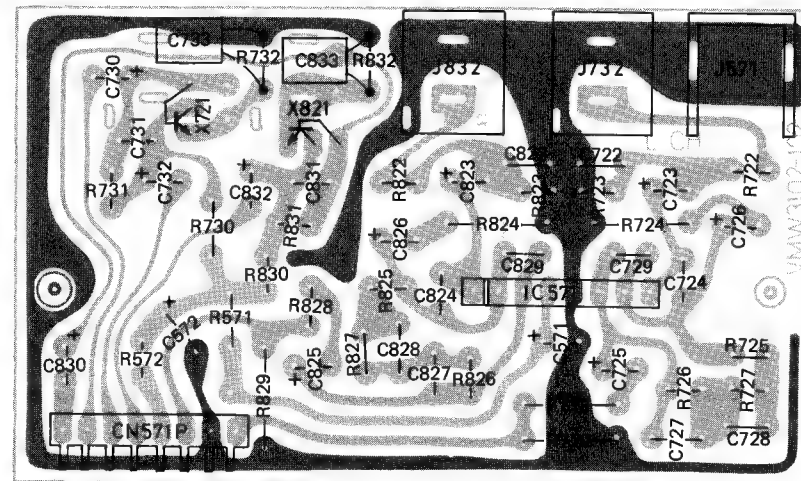
| Ref. No. | Parts No. | Parts Name | Description |
|-----------|-------------|--------------|----------------|
| C772,872 | QCY41HK-102 | Ceramic | 1000 pF 50 V |
| C771, 871 | QEB41HM-224 | Electrolytic | 0.22 μ F " |

Others

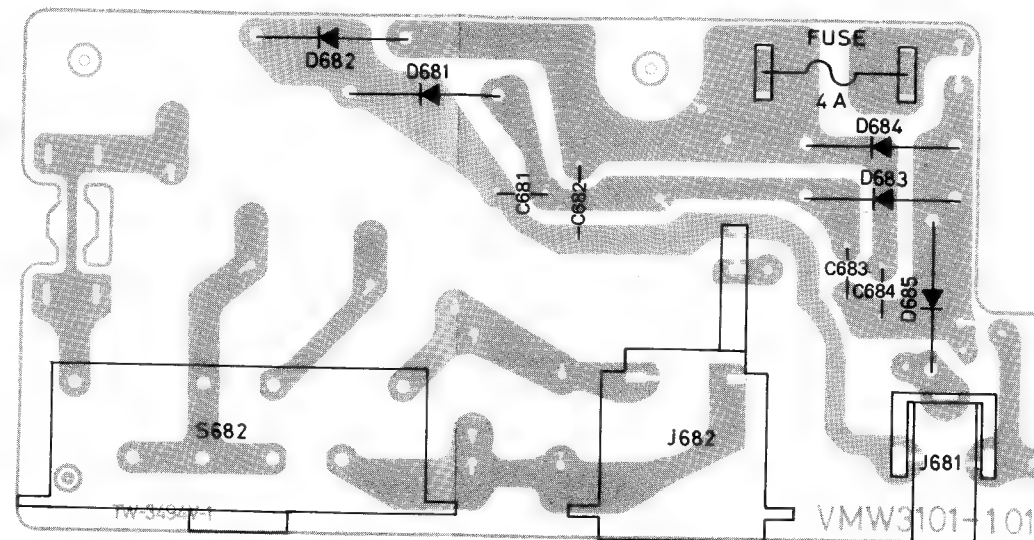
| Ref. No. | Parts No. | Parts Name | Description |
|----------|-------------|--------------|-------------|
| S551 | QSS4201-043 | Slide Switch | AUTO-MANU |
| S552 | QSS2201-002 | " | LOUDNESS |
| CN551-P | QMV5004-005 | Connector | 5-pin |

Circuit Board Assemblies(Power Supply,Jack,Auto-Stop, MMS Switch,MMS LED,Metal LED and Stereo LED,Motor)

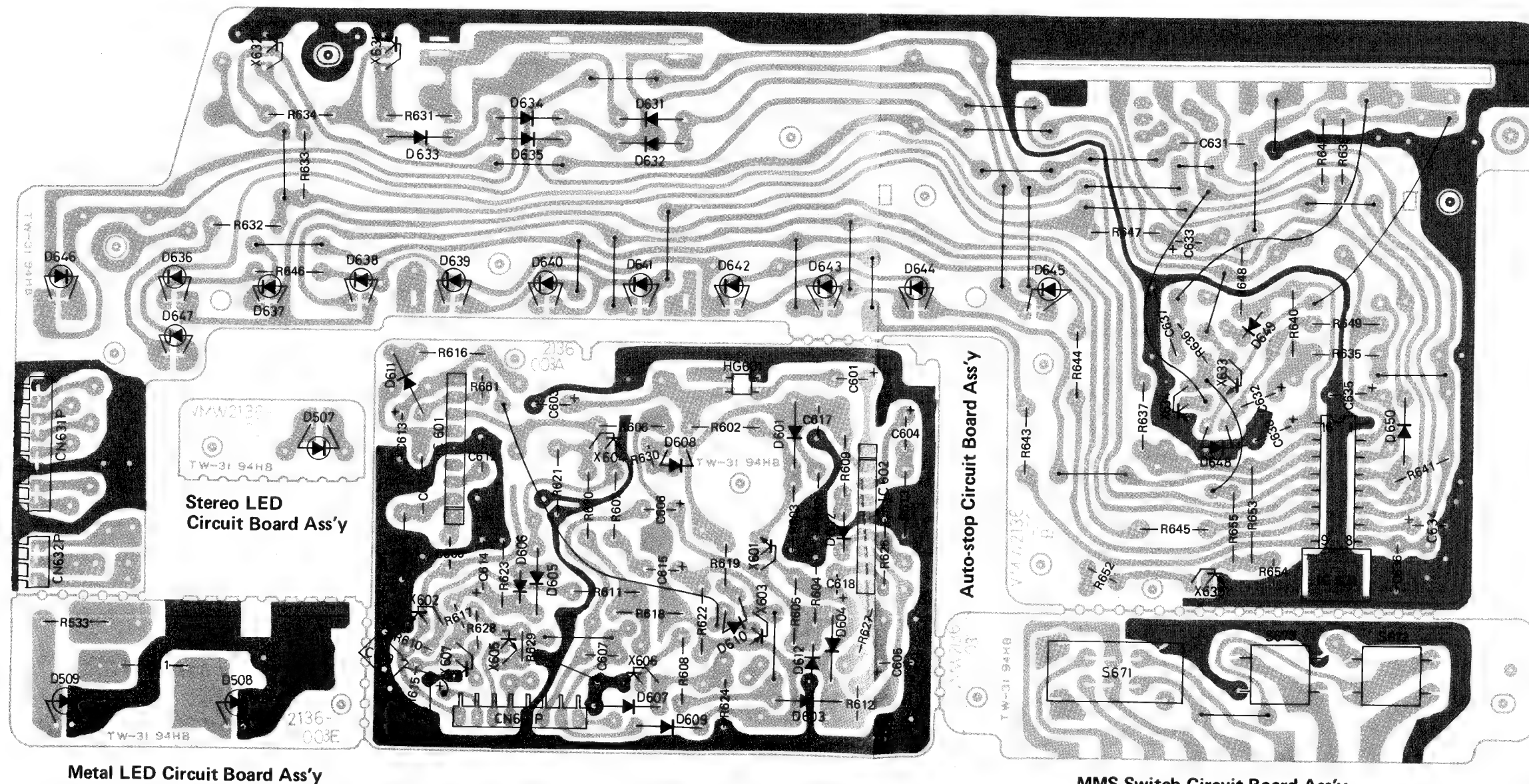
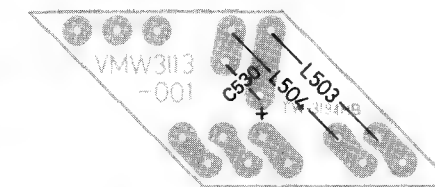
Jack Circuit Board Ass'y



Power Supply Circuit Board Ass'y



Motor Circuit Board Ass'y



Note:
The circuit board assembly will not be available as spare part.

Positive line
Common line

Diodes

Asterisked parts (*) show new parts.

| Ref. No. | Parts No. | Parts Name | Description |
|----------|-----------|---------------|-------------|
| D681~685 | △ U08B | Silicon Diode | HITACHI |

Capacitors

| Ref. No. | Parts No. | Parts Name | Description |
|----------|---------------|------------|-------------------|
| C681~684 | △ QCF11EZ-103 | Ceramic | 0.01 μ F 25 V |

Others

| Ref. No. | Parts No. | Parts Name | Description |
|------------|---------------|--------------------|------------------|
| J681 | △ QMA1221-004 | Ext. DC Jack Ass'y | DC 15 V |
| J682, S681 | △ QMC0263-002 | AC Socket Ass'y | AC 110/220/240 V |
| S682 | △*QMF51A2-4R0 | Fuse | T4A |
| | △ QSS2325-107 | Slide Switch | |

Jack Circuit Board Ass'y

Transistors

| Ref. No. | Parts No. | Parts Name | Description |
|----------|-----------|----------------------|-------------|
| X721,821 | 2SD636(R) | Silicon (MATSUSHITA) | 0.4W |

IC

| Ref. No. | Parts No. | Parts Name | Description |
|----------|-------------------|--------------------|--------------------|
| IC571 | LA3160 (or BA328) | Integrated Circuit | SANYO (TOYO DENGU) |

Resistors

| Ref. No. | Parts No. | Parts Name | Description |
|-----------|--------------|------------|--------------------|
| R571 | QRD143J-102S | Carbon | 1 k Ω 1/4 W |
| R572 | " -470S | " | 47 Ω " |
| R722, 822 | " -182S | " | 1.8 k Ω " |
| R723, 823 | " -473S | " | 47 k Ω " |
| R724, 824 | QRD141J-561S | " | 560 Ω " |
| R725, 825 | QRD143J-102S | " | 1 k Ω " |
| R726, 826 | " -124S | " | 120 k Ω " |
| R727, 827 | " -103S | " | 10 k Ω " |
| R728, 828 | QRD141J-103S | " | 10 k Ω " |
| R729, 829 | " -223S | " | 22 k Ω " |
| R730, 830 | QRD143J-332S | " | 3.3 k Ω " |
| R731, 831 | " -824S | " | 820 k Ω " |
| R732, 832 | " -152S | " | 1.5 k Ω " |

Capacitors

| Ref. No. | Parts No. | Parts Name | Description |
|---------------------|-------------|--------------|--------------------|
| C571, 572 | QET41CR-476 | Electrolytic | 47 μ F 16 V |
| C722, 822 | QCS11HJ-501 | Ceramic | 500 pF 50 V |
| C723, 725, 823, 825 | QET41CR-106 | Electrolytic | 10 μ F 16 V |
| C724, 824 | QCF11HP-102 | Ceramic | 1000 pF 50 V |
| C726, 826 | QET41AR-476 | Electrolytic | 47 μ F 10 V |
| C727, 827 | QFM41HJ-273 | Mylar | 0.027 μ F 50 V |
| C728, 828 | " -822 | " | 8200 pF " |
| C729, 829 | QCS11HK-470 | Ceramic | 47 pF " |
| C730, 732, 830, 832 | QET41HR-335 | Electrolytic | 3.3 μ F " |
| C731, 831 | QCS11HJ-220 | Ceramic | 22 pF " |
| C733, 833 | QFM41HJ-472 | Mylar | 4700 pF " |

Others

| Ref. No. | Parts No. | Parts Name | Description |
|----------|-------------|------------|-------------|
| J571 | VMZ0001-001 | Terminal | Ground |
| J732 | VMC0002-002 | Jack Ass'y | PHONO (L) |
| J832 | VMC0002-001 | " | PHONO (R) |
| CN571-P | QMV5004-008 | Connector | 8-pin |

Auto Stop Circuit Board Ass'y

Transistors

| Ref. No. | Parts No. | Parts Name | Pc | fT |
|---------------------|--------------|-------------------|--------|---------|
| X601 | 2SD468(C) | Silicon (HITACHI) | 0.9 W | 190 MHz |
| X602, 604, 606, 607 | 2SD636(R) | " (MATSUSHITA) | 0.4 W | |
| X603, 605 | *2SA786(P,Q) | " (TOYO DENGU) | 0.15 W | 180 MHz |

IC & Diodes

| Ref. No. | Parts No. | Parts Name | Description |
|--------------------|-----------|--------------------|-------------|
| IC601, 602 | BA335 | Integrated Circuit | TOYO DENGU |
| D601~608, 610, 611 | 1S2473 | Silicon Diode | HITACHI |
| D609, 612 | 1OE1 | " | J.I.R.C. |

Resistors

| Ref. No. | Parts No. | Parts Name | Description |
|--------------------------|--------------|------------|----------------------|
| R601, 614 | QRD141J-474S | Carbon | 470 k Ω 1/4 W |
| R602 | " -471S | " | 470 Ω " |
| R603, 605, 616, 622, 623 | " -103S | " | 10 k Ω " |
| R604 | " -123S | " | 12 k Ω " |
| R606, 607, 608 | " -272S | " | 2.7 k Ω " |
| R609, 613, 618 | " -102S | " | 1 k Ω " |
| R610 | QRD143J-393S | " | 39 k Ω " |
| R611 | QRD141J-473S | " | 47 k Ω " |
| R612 | QRD143J-221S | " | 220 Ω " |
| R615 | " -333S | " | 33 k Ω " |
| R617, 628, 629 | " -104S | " | 100 k Ω " |
| R619 | " -101S | " | 100 Ω " |
| R620 | QRD143J-393S | " | 39 k Ω " |
| R621 | QRD141J-223S | " | 22 k Ω " |
| R624 | QRD143J-334S | " | 330 k Ω " |
| R626 | QRD141J-104S | " | 100 k Ω " |
| R627 | QRD143J-100S | " | 10 Ω " |
| R630 | " -102S | " | 1 k Ω " |
| R661 | " -333S | " | 33 k Ω " |

Capacitors

| Ref. No. | Parts No. | Parts Name | Description | |
|-----------|-------------|--------------|---------------|------|
| C601 | QET41HR-335 | Electrolytic | 3.3 μ F | 50 V |
| C603 | QET41CR-477 | " | 470 μ F | 16 V |
| C604 | " -336 | " | 33 μ F | " |
| C605, 606 | " -227 | " | 220 μ F | " |
| C607 | QCF11EZ-223 | Ceramic | 0.022 μ F | 25 V |
| C609 | QFM41HK-102 | Mylar | 1000 pF | 50 V |
| C611 | QFM41HJ-104 | " | 0.1 μ F | " |
| C612 | QFM41HM-473 | " | 0.047 μ F | " |
| C613, 619 | QET41CR-107 | Electrolytic | 100 μ F | 16 V |
| C614 | " -106 | " | 10 μ F | " |
| C615 | QET41HR-105 | " | 1 μ F | 50 V |
| C617 | QCF11EZ-103 | Ceramic | 0.01 μ F | 25 V |
| C618 | QET41HR-474 | Electrolytic | 0.47 μ F | 50 V |

Others

| Ref. No. | Parts No. | Parts Name | Description |
|----------|-------------|--------------|-------------|
| HG601 | VHE610G | Hall Element | JVC |
| CN601-P | QMV5005-008 | Connector | 8-pin |

MMS Switch Circuit Board Ass'y

| Ref. No. | Parts No. | Parts Name | Description |
|-----------|--------------|--------------|---------------|
| S671 | *QSS2201-002 | Slide Switch | SCAN |
| S672, 673 | QSP0022-001 | Touch Switch | PROGRAM-CLEAR |

MMS LED Circuit Board Ass'y

Transistors

| Ref. No. | Parts No. | Parts Name | Pc | fT |
|---------------------|-----------|----------------------|-------|---------|
| X631, 632, 634, 635 | 2SD636(R) | Silicon (MATSUSHITA) | 0.4 W | |
| X633 | 2SD468(C) | " (HITACHI) | 0.9 W | 190 MHz |

IC & Diodes

Asterisked parts (*) show new parts.

| Ref. No. | Parts No. | Parts Name | Description |
|---------------------|-----------|----------------------|-------------|
| IC631 | *AN6260 | Integrated Circuit | MATSUSHITA |
| D631~ 635, 648~ 650 | 1S2473 | Silicon Diode | HITACHI |
| D636~ 644 | *LN219RP | Light Emitting (LED) | MATSUSHITA |
| D645, 646 | *LN226RP | " (") | " |
| D647 | *LN319GP | " (") | " |

Resistors

| Ref. No. | Parts No. | Parts Name | Description | |
|----------------|--------------|------------|----------------|-------|
| R631, 634 | QRD141J-104S | Carbon | 100 k Ω | 1/4 W |
| R632 | " -102S | " | 1 k Ω | " |
| R633 | " -473S | " | 47 k Ω | " |
| R635 | " -221S | " | 220 Ω | " |
| R636, 654 | QRD143J-104S | " | 100 k Ω | " |
| R637 | QRD141J-331S | " | 330 Ω | " |
| R638, 642, 649 | " -103S | " | 10 k Ω | " |
| R640 | " -222S | " | 2.2 k Ω | " |
| R641 | QRD143J-472S | " | 4.7 k Ω | " |
| R643, 644, 645 | QRD141J-151S | " | 150 Ω | " |
| R646, 648 | " -101S | " | 100 Ω | " |
| R647 | " -184S | " | 180 k Ω | " |
| R652 | QRD143J-154S | " | 150 k Ω | " |
| R653 | QRD141J-154S | " | 150 k Ω | " |
| R655 | " -474S | " | 470 k Ω | " |

Capacitors

| Ref. No. | Parts No. | Parts Name | Description | |
|-----------|--------------|--------------|--------------|------|
| C631 | QEN41EA-335N | Electrolytic | 3.3 μ F | 25 V |
| C632, 638 | QET41CR-106 | " | 10 μ F | 16 V |
| C633 | QEB41EM-335 | " | 3.3 μ F | 25 V |
| C634 | QEE51VM-224 | " | 0.22 μ F | 35 V |
| C635 | QET41CR-336 | " | 33 μ F | 16 V |
| C636, 637 | QCC11EM-154 | Ceramic | 0.15 μ F | 25 V |

Others

| Ref. No. | Parts No. | Parts Name | Description |
|----------|-------------|------------|-------------|
| CN631-P | QMV5004-008 | Connector | 8-pin |
| CN632-P | QMV5004-003 | " | 3-pin |

METAL LED Circuit Board Ass'y

Diodes

| Ref. No. | Parts No. | Parts Name | Description |
|----------|-----------|----------------------|-------------|
| D508 | LN217RP | Light Emitting (LED) | MATSUSHITA |
| D509 | *SLR30UR | " (") | " |

Resistors

| Ref. No. | Parts No. | Parts Name | Description | |
|----------|--------------|------------|----------------|-------|
| R511 | QRD141J-152S | Carbon | 1.5 k Ω | 1/4 W |
| R533 | " -182S | " | 1.8 k Ω | " |

Stereo LED Circuit Board Ass'y

Diode

| Ref. No. | Parts No. | Parts Name | Description |
|----------|-----------|----------------------|-------------|
| D507 | LN217RP | Light Emitting (LED) | MATSUSHITA |

Amplifier and Muting Circuit Board Assemblies

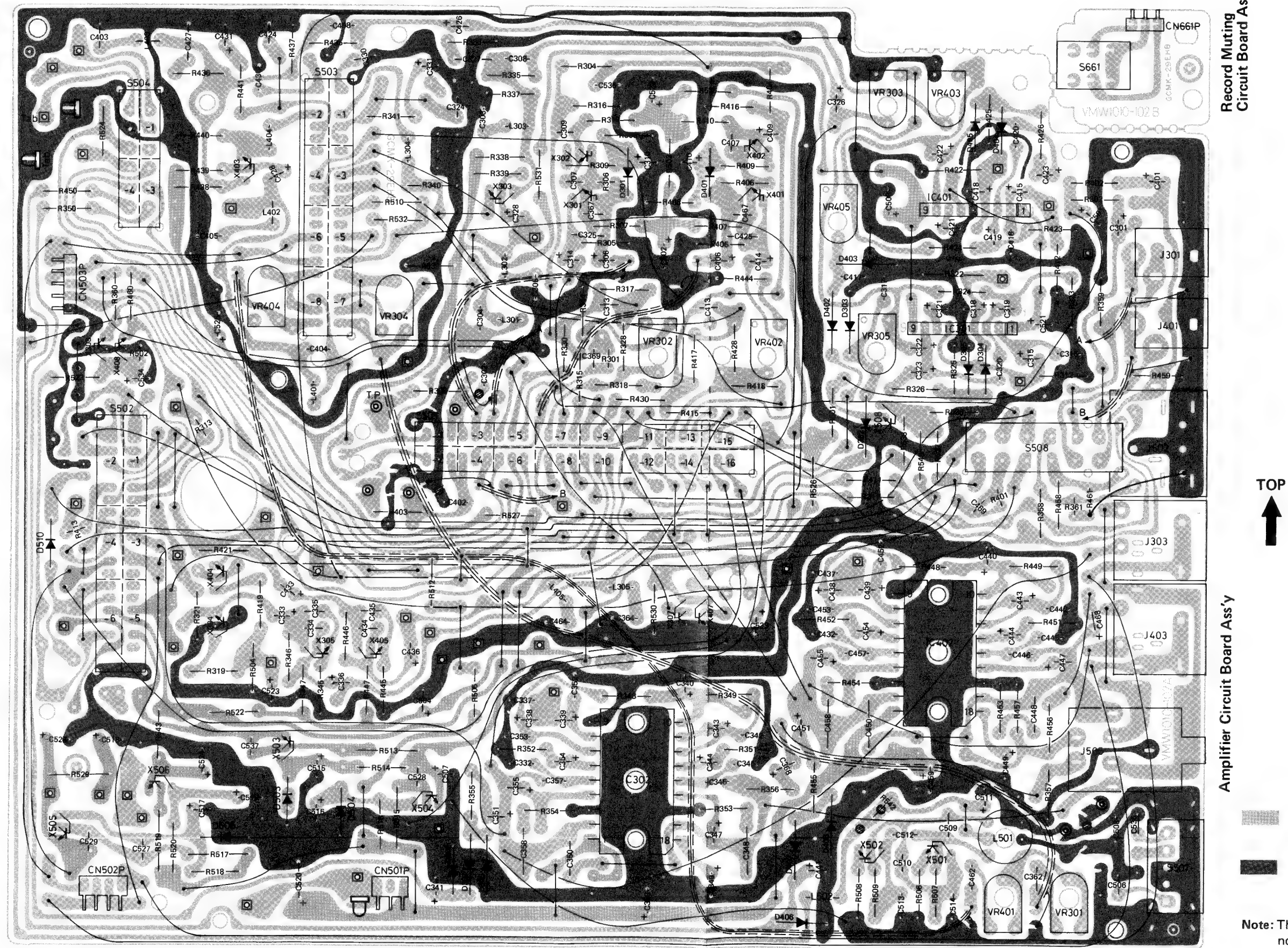


Fig. 30

Amplifier Circuit Board Ass'y

Transistors

| Ref. No. | Parts No. | Parts Name | Pc | fT |
|---|-----------|----------------------|-------|---------|
| X301, 302, 303, 401, 402, 403 | 2SD661(S) | Silicon (MATSUSHITA) | 0.3 W | |
| X304, 305, 306, 308, 404, 405, 406, 408, 503, 506 | 2SD636(R) | " (") | 0.4 W | |
| X307, 407, 501, 502, 504, 508 | 2SD468(C) | " (HITACHI) | 0.9 W | 190 MHz |
| X505 | 2SD439(E) | " (SANYO) | 1 W | 150 MHz |

IC & Diodes

Asterisked parts (*) show new parts.

| Ref. No. | Parts No. | Parts Name | Description |
|--|-------------------------|-------------------------|--------------------------|
| IC301, 401 IC302, 402 | BA333(V) *AN7145K(H) | Integrated Circuit " | TOYO DENGU MATSUSHITA |
| D301, 304, 305, 306, 401, 404, 405, 406, 510 | 1S2473 | Silicon Diode | HITACHI |
| D302, 303, 307, 308, 402, 403, 407, 408 | 1N34A | Germanium Diode | " |
| D503 | HZ7C | Zener Diode | " |
| D504 | *HZ11B3 | " | " |
| D505 | *HZ12B1 | " | " |

Resistors

| Ref. No. | Parts No. | Parts Name | Description |
|---|---------------|------------|----------------------|
| R301,401 | QRD143J-103S | Carbon | 10 k Ω 1/4 W |
| R302,340,402,440, 536,539 | QRD141J-222SY | " | 2.2 k Ω " |
| R303,403,512,543 | " -100SY | " | 10 Ω " |
| R304,312,337,404 412,504 | " -104SY | " | 100 k Ω " |
| R305,405,525 | QRD141J-471SY | " | 470 Ω 1/4 W |
| R306 | QRD143J-684S | " | 680 k Ω " |
| R307,335,407,435 | " -683SY | " | 68 k Ω " |
| R308,408 | QRD141J-821SY | " | 820 Ω " |
| R309,357,409,457 510 | " -820SY | " | 82 Ω " |
| R310,328,410,428 501 | QRD141J-682SY | " | 6.8 k Ω 1/4 W |
| R311,318,330,341 359,360,411,418 430,441,459,460 526 | QRD141J-103SY | " | 10 k Ω 1/4 W |
| R313,413 | QRD143J-153S | " | 15 k Ω 1/4 W |
| R315,319,336,348 349,419,436,448 449 | QRD141J-473SY | " | 47 k Ω " |
| R316,321,416,421 523,538,546 | QRD141J-223SY | " | 22 k Ω 1/4 W |
| R317,417 | QRD141J-224SY | " | 220 k Ω 1/4 W |
| R322,422 | QRD121J-106 | " | 10 M Ω 1/2 W |
| R323,351,352,423 451,452 | QRD141J-221SY | " | 220 Ω 1/4 W |
| R324,424 | QRD141J-393SY | " | 39 k Ω 1/4 W |
| R325,425 | " -123SY | " | 12 k Ω " |
| R326,347,426,447 | " -332SY | " | 3.3 k Ω " |
| R338,346,406,438 446 | " -684SY | " | 680 k Ω " |

Resistors

| Ref. No. | Parts No. | Parts Name | Description | |
|------------------|---------------|------------|----------------|---------|
| R339,439 | QRD141J-153SY | Carbon | 15 k Ω | 1/4 W |
| R344,444 | " -330SY | " | 330 Ω | " |
| R345,356,445,456 | " -151SY | " | 150 Ω | " |
| R350,355,450,455 | " -102SY | " | 1 k Ω | " |
| R353,354,453,454 | " -1R0SY | " | 1 Ω | " |
| R358,458 | " -155S | " | 1.5 M Ω | " |
| R361,461 | QRD143J-152S | " | 1.5 k Ω | " |
| R415 | QRD141J-473S | " | 47 k Ω | " |
| R437 | " -104S | " | 100 k Ω | " |
| R502 | QRD143J-473S | " | 47 k Ω | " |
| R503,537 | QRD141J-562SY | " | 5.6 k Ω | " |
| R505 | " -823SY | " | 82 k Ω | " |
| R506,508 | " -6R8S | " | 6.8 Ω | " |
| R507,509 | " -393S | " | 39 k Ω | " |
| R513,519 | QRH141J-100 | Fusible | 10 Ω | " |
| R514,518 | QRD141J-271SY | Carbon | 270 Ω | " |
| R515 | QRH141J-2R2 | Fusible | 2.2 Ω | " |
| R516 | QRD141J-331SY | Carbon | 330 Ω | " |
| R517 | QRD141K-2R2 | " | 2.2 Ω | " |
| R520 | QRD141J-182SY | " | 1.8 k Ω | " |
| R522,531 | " -101SY | " | 100 Ω | " |
| R524 | " -122S | " | 1.2 k Ω | " |
| R527 | " -330S | " | 33 Ω | " |
| R529 | QRD121J-1R0 | " | 1 Ω | 1/2 W |
| R530 | QRD141J-183SY | " | 18 k Ω | 1/4 W |
| R532 | " -180S | " | 18 Ω | " |
| R542 | QRD143K-220 | " | 22 Ω | " |
| VR301,401 | QVP8A0B-054 | Variable | 50 k Ω | B-Curve |
| VR302,402 | QVP8A0B-032 | " | 300 Ω | " |
| VR303,403 | " -014 | " | 10 k Ω | " |
| VR304,404 | " -015 | " | 100 k Ω | " |
| VR305,405 | " -053 | " | 5 k Ω | " |

Capacitors

| Ref. No. | Parts No. | Parts Name | Description | |
|--|-------------|--------------|---------------|------|
| C301,,315,323,401 415,423 | QET41HR-474 | Electrolytic | 0.47 μ F | 50 V |
| C302,316,402,416 | QCS11HJ-151 | Ceramic | 150 pF | 50 V |
| C303,403 | " -681 | " | 680 pF | " |
| C304,325,404,425 | " -561 | " | 560 pF | " |
| C305,364,405,464 | " -331 | " | 330 pF | " |
| C306,406 | QET41HR-335 | Electrolytic | 3.3 μ F | " |
| C307,407 | QCS11HK-330 | Ceramic | 33 pF | " |
| C308,408 | QCS11HJ-301 | " | 300 pF | " |
| C309,318,322,409 | QET41ER-475 | Electrolytic | 4.7 μ F | 25 V |
| 418,422,523 | | | | |
| C310,410 | QET41AR-476 | " | 47 μ F | 10 V |
| C313,324,330,413 424,430 | QFM41HJ-153 | Mylar | 0.015 μ F | 50 V |
| C314,340,414,440 | QET41AR-107 | Electrolytic | 100 μ F | 10 V |
| 501,515,533 | | | | |
| C317,417 | QCY41EK-103 | Ceramic | 0.01 μ F | 25 V |
| C319,331,419,431 | QET41AR-336 | Electrolytic | 33 μ F | 10 V |
| C320,367,420,467 | QCS11HK-470 | Ceramic | 470 pF | 50 V |
| C321,421 | QET41CR-226 | Electrolytic | 22 μ F | 16 V |
| C326,328,333,336 341,426,428,433 436,441 | QET41HR-105 | " | 1 μ F | 50 V |

Capacitors

| Ref. No. | Parts No. | Parts Name | Description | |
|------------------|--------------|---------------|---------------|-------|
| C327,427 | QFM41HJ-563 | Mylar | 0.056 μ F | 50 V |
| C332,345,432,445 | QCS11HK-471 | Ceramic | 470 pF | " |
| C334,434 | " -220 | " | 220 pF | " |
| C335,435 | " -101 | " | 100 pF | " |
| C337,342,437,442 | QCY41HK-681 | " | 680 pF | " |
| C338,343,438,443 | QEC41HM-224 | Electrolytic | 0.22 μ F | " |
| C339,439 | " -104 | " | 0.1 μ F | " |
| C344,351,354,444 | QET41CR-106 | " | 10 μ F | 16 V |
| 451,454,511,534 | | | | |
| C346,357,446,457 | QCS11HK-560 | Ceramic | 56 pF | 50 V |
| C347,355,447,455 | QET41AR-227 | Electrolytic | 220 μ F | 10 V |
| C348,358,448,458 | QFM41HK-224 | Mylar | 0.22 μ F | " |
| C349,359,449,459 | QET41ER-477 | Electrolytic | 470 μ F | 25 V |
| 519 | | | | |
| C350,450 | QFM41HK-104 | Mylar | 0.1 μ F | 50 V |
| C352,452 | QCY41HK-102 | Ceramic | 1000 pF | " |
| C353,453 | QCS11HJ-101 | " | 100 pF | " |
| C362,462 | QFS32BJ-391 | Polystyrol | 390 pF | 125 V |
| C368,468 | QEB41CM-685 | Electrolytic | 6.8 μ F | 16 V |
| C369,469 | QCY41HK-272 | Ceramic | 2700 pF | 50 V |
| C502,503,518 | QET41CR-477 | Electrolytic | 470 μ F | 16 V |
| C504,521,522,525 | " -227 | " | 220 μ F | " |
| C506,535 | QCY41HK-222 | Ceramic | 2200 pF | 50 V |
| C507,516,517,526 | QET41CR-107 | Electrolytic | 107 μ F | 16 V |
| C508 | QFP32AJ-183L | Polypropylene | 0.018 μ F | 100 V |
| C509 | " -223L | " | 0.022 μ F | " |
| C510,512 | QFM41HJ-332 | Mylar | 3300 pF | 50 V |
| C513,514 | " -223 | " | 0.022 μ F | " |
| C520 | QET41ER-228 | Electrolytic | 2200 pF | 25 V |
| C524 | QET41ER-227 | " | 220 μ F | 25 V |
| C527,528,529 | QCC11EM-223 | Ceramic | 0.022 μ F | " |
| C536 | QFM42AK-822 | Mylar | 8200 pF | 100 V |
| C537 | QCF11EZ-473 | Ceramic | 0.047 μ F | 25V |

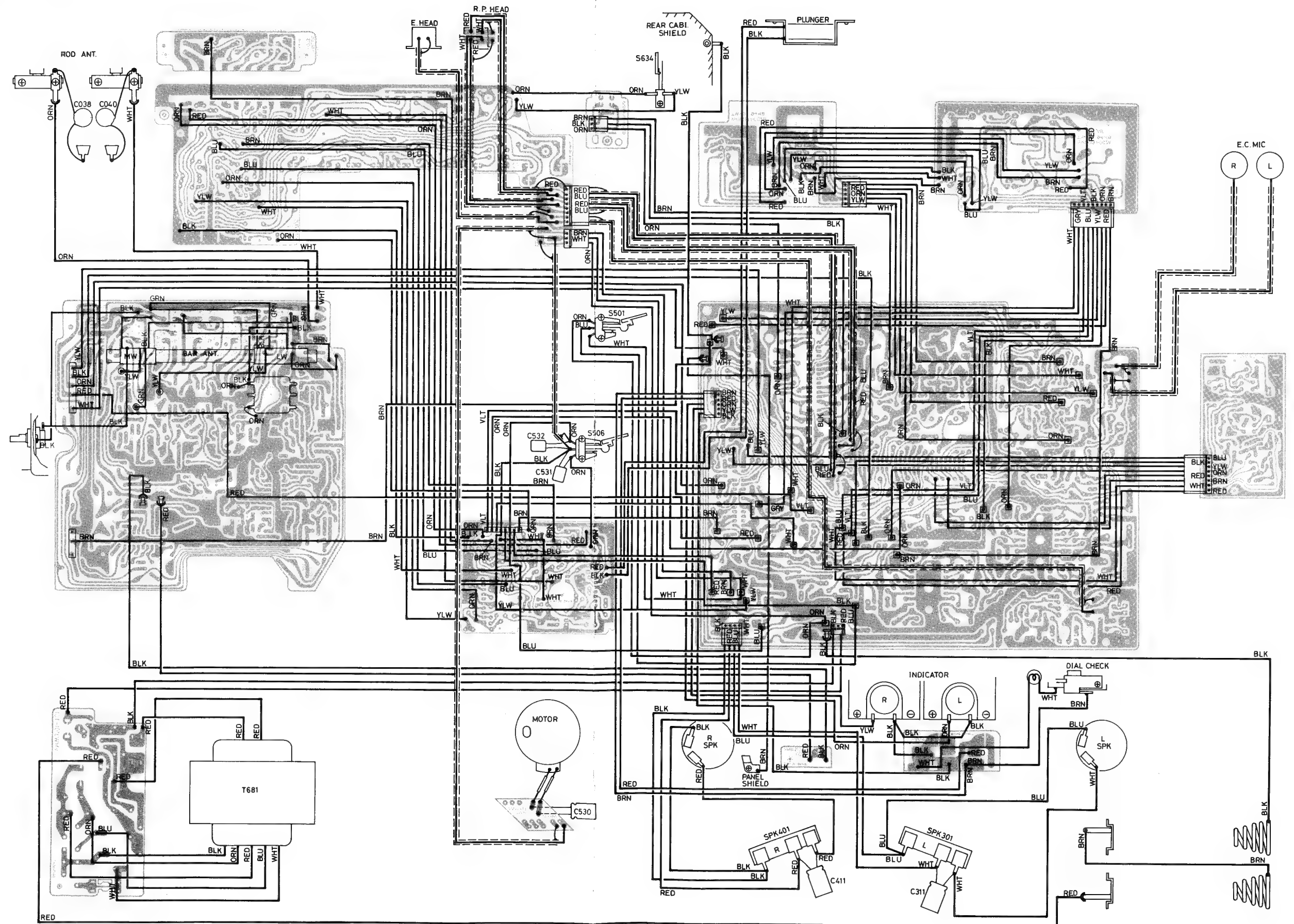
Muting Circuit Board Ass'y

| Ref. No. | Parts No. | Parts Name | Description |
|----------|-------------|-------------|-------------|
| S661 | QSP0219-003 | Push Switch | REC MUTE |
| CN661-P | QMV5004-003 | Connector | 3-pin |

Others

| Ref. No. | Parts No. | Parts Name | Description |
|---------------------|--------------|--------------|-------------|
| L301, 303, 401, 403 | VQP0002-103 | Inductor | |
| L302, 305, 402, 405 | VQP0001-183S | " | |
| L304, 404 | VQP0001-562 | " | |
| L501 | VQH1009-005 | Coil | Osc. |
| L502 | 03226-2K | Inductor | |
| S502-1 ~ 6 | QSS6401-101 | Slide Switch | FUNCTION |
| S503-1 ~ 8 | QSS8301-001 | " | TAPE SELECT |
| S504-1 ~ 4 | QSS4201-043 | " | MODE/METER |
| S505-1 ~ 16 | *QSSG201-101 | " | REC-PLAY |
| S507 | QSS1301-021 | " | BEAT CUT |
| J301, 401 | QMS3501-014 | Jack Ass'y | MIC |
| J303, 403 | QMC0289-003 | " | DIN SPKR |
| J502 | QMC9014-006 | " | DIN |
| J505 | QMS6312-004 | " | Headphones |
| CN2 | QMC0359-001 | Plug Ass'y | 3-pin |
| CN1 | QMC0559-001 | " | 5-pin |
| T. Pin | A74138-2 | Test Pin | |
| Tab | V43895-1 | Tab | |
| " | E43727-002 | " | |
| CN501-P | QMV5004-003 | Connector | 3-pin |
| CN502-P | " -004 | " | 4-pin |
| CN503-P | " -005 | " | 5-pin |

Wiring Connection



Exploded Views of Main Chassis Ass'y

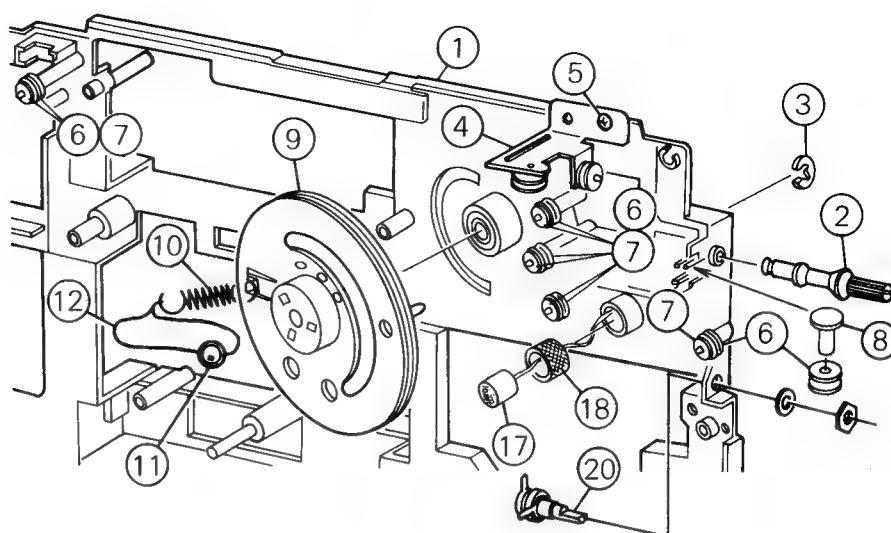


Fig. 32

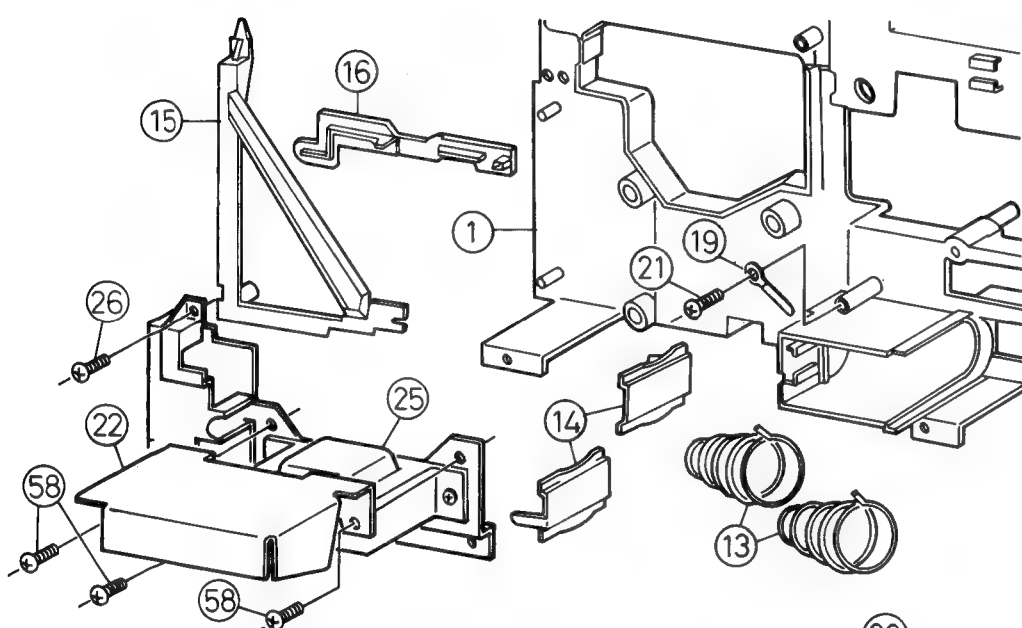


Fig. 33

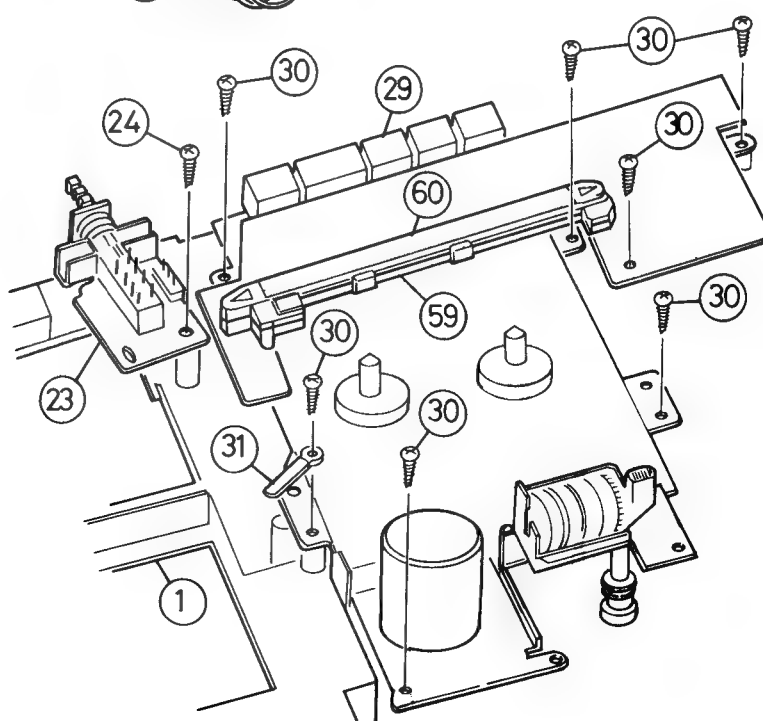


Fig. 34

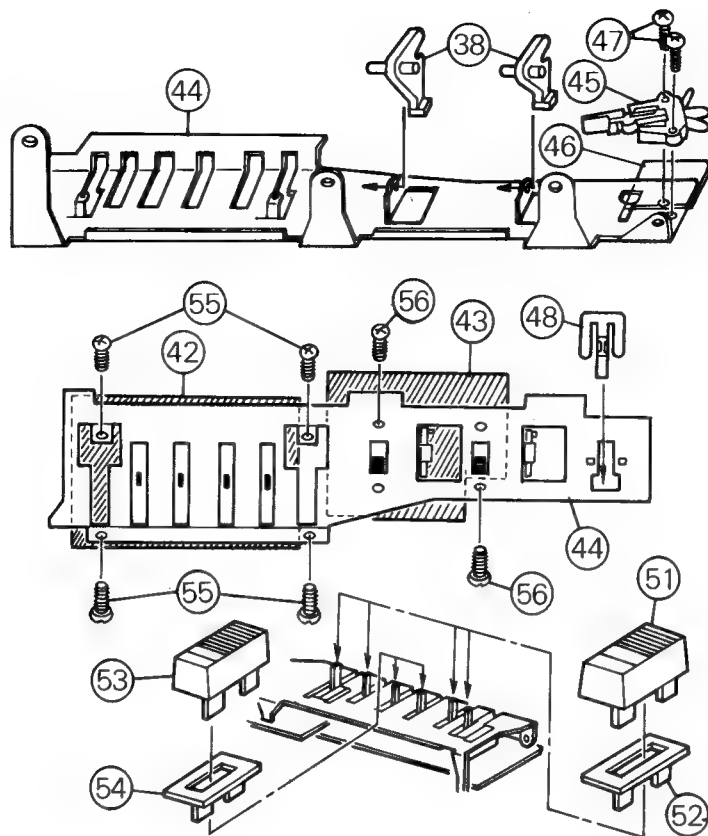


Fig. 35

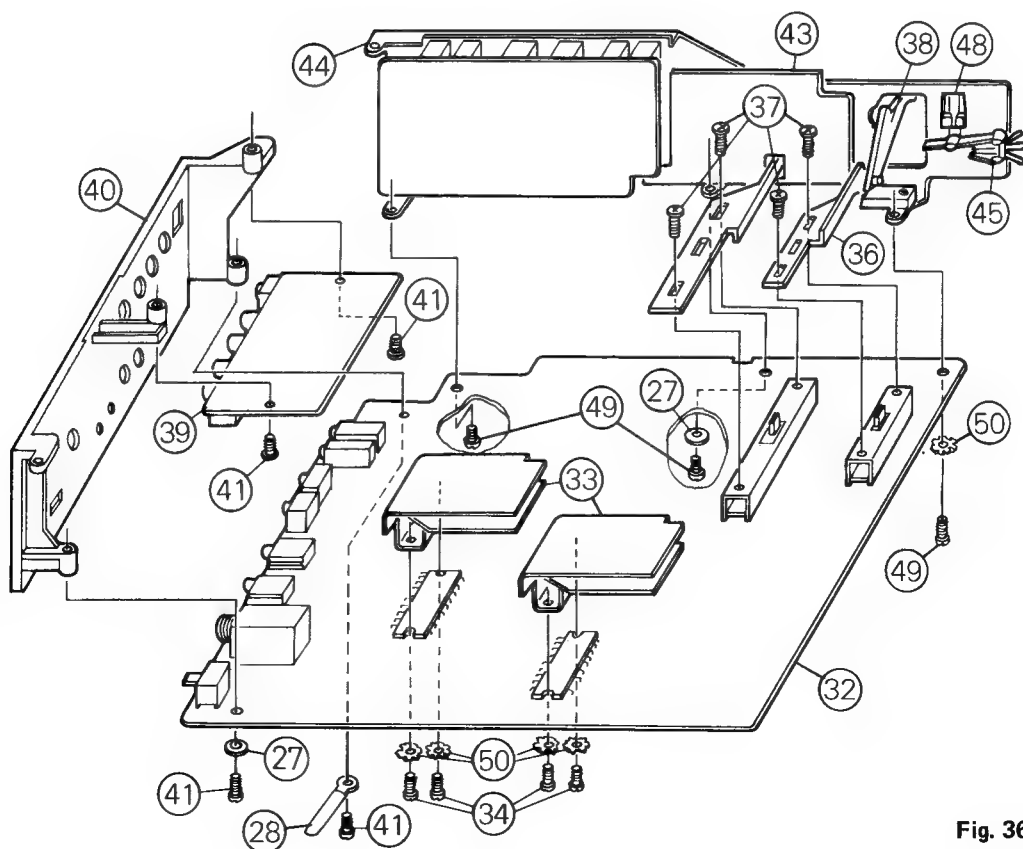


Fig. 36

Asterisked parts (*) show new parts.

| Ref. No. | Parts No. | Parts Name | Description | Q'ty |
|----------|--|---------------------------|--------------------------------|------|
| 1 | *VYH1114-001 | Chassis | | 1 |
| 2 | VYH4009-004 | Tuning Shaft | | 1 |
| 3 | REE3000X | E-ring | | 1 |
| 4 | *VYH4402-00A | Roller Ass'y | | 1 |
| 5 | SBSB3012Z | Screw | | 1 |
| 6 | VYH4032-001 | Roller | | 6 |
| 7 | WNB2600N | Washer | | 5 |
| 8 | RTA4012 | Rivet | | 1 |
| 9 | *VYH3150-001 | Drum | | 1 |
| 10 | 50153-3 | Spring | | 1 |
| 11 | *VJN4039-002 | Needle Holder | | 1 |
| 12 | VHR2TK9-05AT | Kevlar cord | φ 0.5 x 1,910 mm | 1 |
| 13 | 53738-1 | Battery Spring | | 2 |
| 14 | VYH4016-001 | Battery Contact | | 2 |
| 15 | *VYH3151-001 | Lever | Function Selection | 1 |
| 16 | *VYH3152-001 | Slider | | 1 |
| 17 | *VMME62N-029 | E. C. Mike | M301, 401 | 2 |
| 18 | VYH4312-001 | Mike Holder | | 2 |
| 19 | VKZ4001-007 | Wire Holder | | 1 |
| 20 | QAT5001-201 | Midget Variable Capacitor | C97 | 1 |
| 21 | SBSB3010Z | Screw | | 1 |
| 22 | *VYH3169-001 | Shield Plate | | 1 |
| 23 | Record Muting Circuit Board Ass'y | | | |
| 24 | SBSB3010Z | Screw | | 1 |
| 25 | Power Supply Section | | | |
| 26 | SBSB3014V | Screw | | 1 |
| 27 | *Q03095-206 | Washer | | 2 |
| 28 | VKZ4001-010 | Wire Holder | | 1 |
| 29 | Cassette Mechanism Section | | | |
| 30 | SBSB3012C | Screw | | 7 |
| 31 | VKZ4001-007 | Wire Holder | | 1 |
| 32 | Amp. Circuit Board Ass'y | | | |
| 33 | *VYH4411-001 | Heat Sink | | 2 |
| 34 | SPSP3012ZS | Screw | | 4 |
| 35 | *VYH4412-001 | Slider | | 1 |
| 36 | *VYH4413-001 | " | | 1 |
| 37 | V42583-1 | Stud | | 4 |
| 38 | *VYH4414-002 | Lever | Tape Selection, Mode Selection | 2 |
| 39 | Jack Circuit Board Ass'y | | | |
| 40 | *VJD3208-001 | Jack Board | | 1 |
| 41 | SBSB3012Z | Screw | | 4 |
| 42 | Volume Circuit Board Ass'y | | | |
| 43 | Switch Circuit Board Ass'y | | | |
| 44 | *VYH3156-002 | Bracket | | 1 |
| 45 | V44737-001 | Skeleton Switch | S506 SLEEP | 1 |
| 46 | *VYH4466-001 | Spacer | | 1 |
| 47 | SPSP2010Z | Screw | | 2 |
| 48 | *VYH4410-001 | Slider | | 1 |
| 49 | SPSP3006ZS | Screw | | 3 |
| 50 | WBS3000N | Toothed Lock Washer | | 5 |
| 51 | *VXS4027-002 | Knob | VOLUME, REC LEVEL | 4 |
| 52 | *VYH4445-001 | Spacer | | 4 |
| 53 | *VXS4028-002 | Knob | BASS, TREBLE | 2 |
| 54 | *VYH4446-001 | Spacer | | 2 |
| 55 | SPSP2004Z | Screw | | 4 |
| 56 | SPSP2604Z | " | | 2 |
| 57 | | | Blank No. | |
| 58 | SBSB4012C | Screw | | 3 |
| 59 | *VYH3155-001 | LED Holder (A) | | 1 |
| 60 | *VYH3160-001 | " (B) | | 1 |

Exploded Views of Amplifier Chassis Ass'y

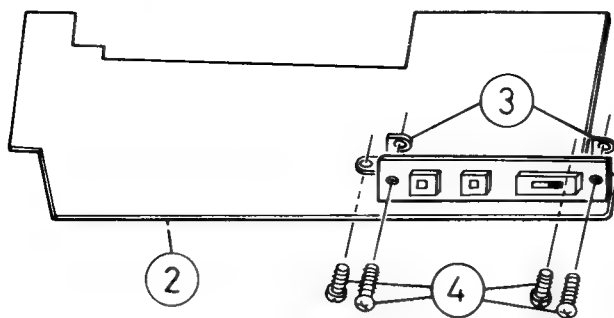


Fig. 37

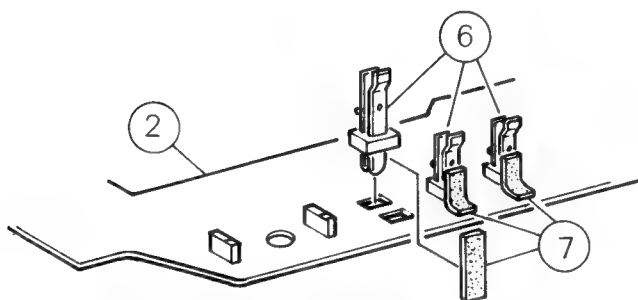


Fig. 37'

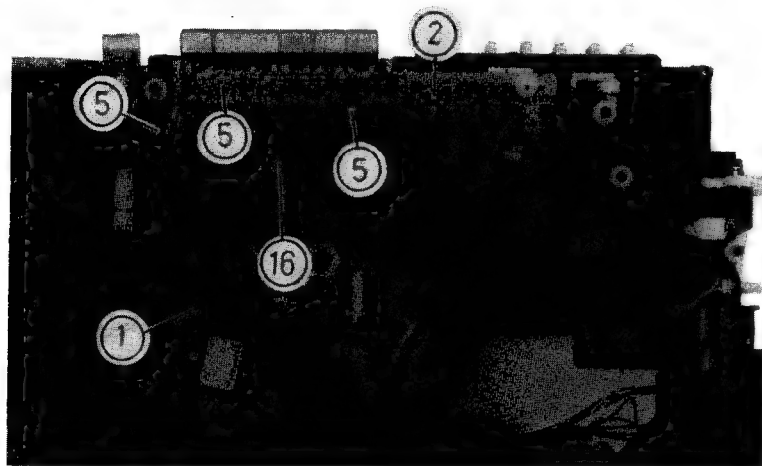


Fig. 39

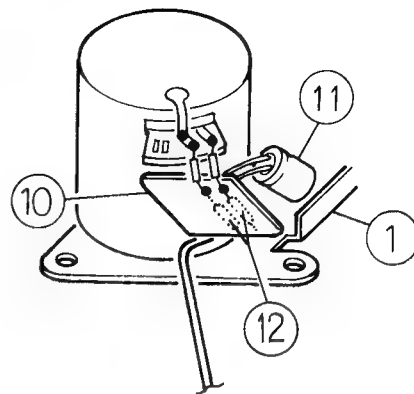


Fig. 38

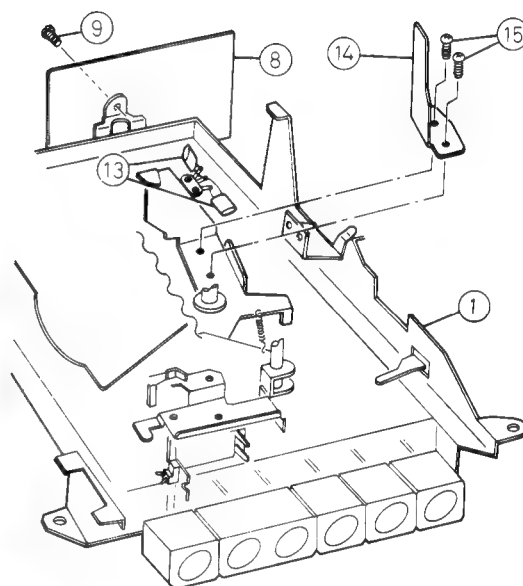


Fig. 40

Asterisked parts (*) show new parts.

| Ref. No. | Parts No. | Parts Name | Description | Q'ty |
|----------|-----------------------------------|------------------------|-------------|------|
| 1 | Cassette Mechanism | | | |
| 2 | MMS Circuit Board Ass'y | | | |
| 3 | *VYH4408-002 | Bracket | | 2 |
| 4 | SPSP3006ZS | Screw | | 4 |
| 5 | LPSP2608V | " | | 3 |
| 6 | VSH1106-001 | Leaf Switch | S631~S633 | 3 |
| 7 | VYSH103-027 | Spacer | | 3 |
| 8 | Auto Stop Circuit Board Ass'y | | | |
| 9 | SPSP2608V | Screw | | 1 |
| 10 | Motor Circuit Board Ass'y | | | |
| 11 | QET41CR-227 | Electrolytic Capacitor | C530 | 1 |
| 12 | T41572-001 | Inductor | L503,504 | 2 |
| 13 | QFM41HM-223 | Mylar Capacitor | C531, 532 | 2 |
| 14 | *VKY4169-002 | Recording Spring | | 1 |
| 15 | LPSP2606Z | Ass'y Screw | | 2 |
| 16 | Rec/Play Head Circuit Board Ass'y | | | |

Exploded Views of Front Cabinet (RC-M70L)

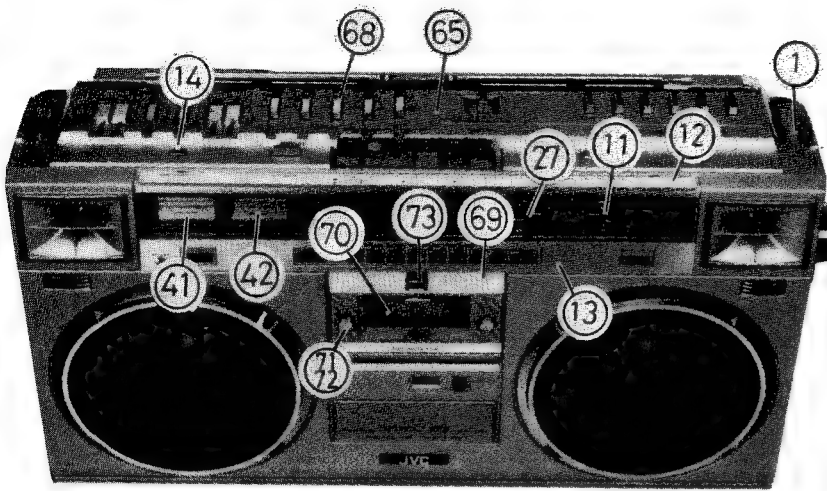


Fig. 41

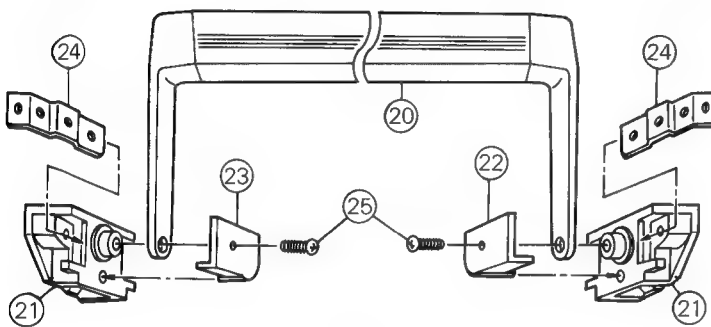


Fig. 42

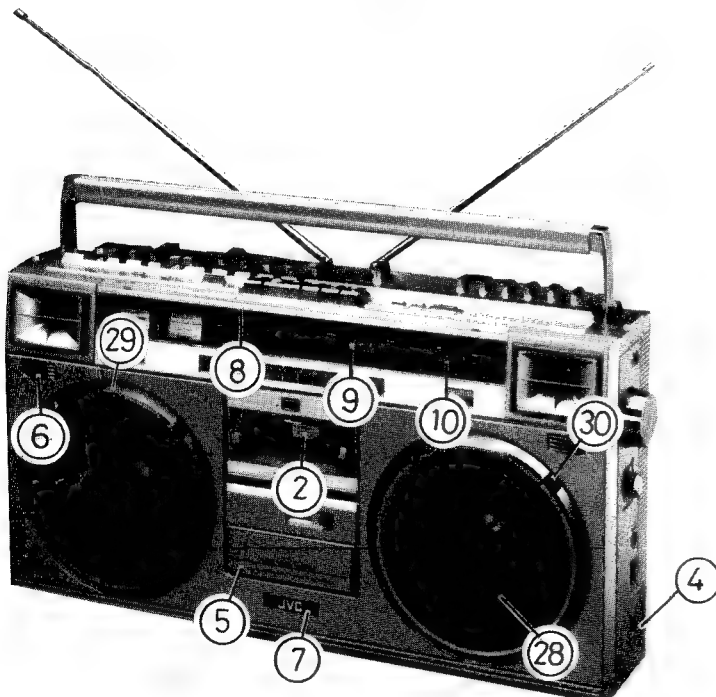


Fig. 43

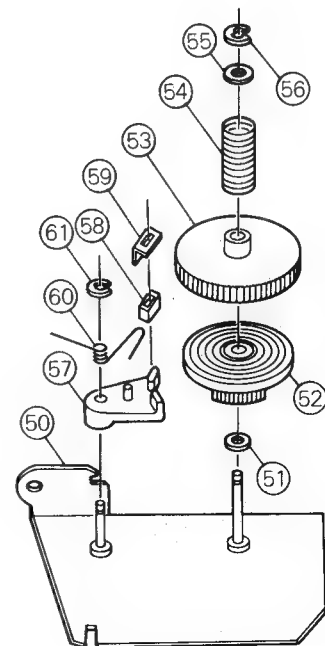


Fig. 44

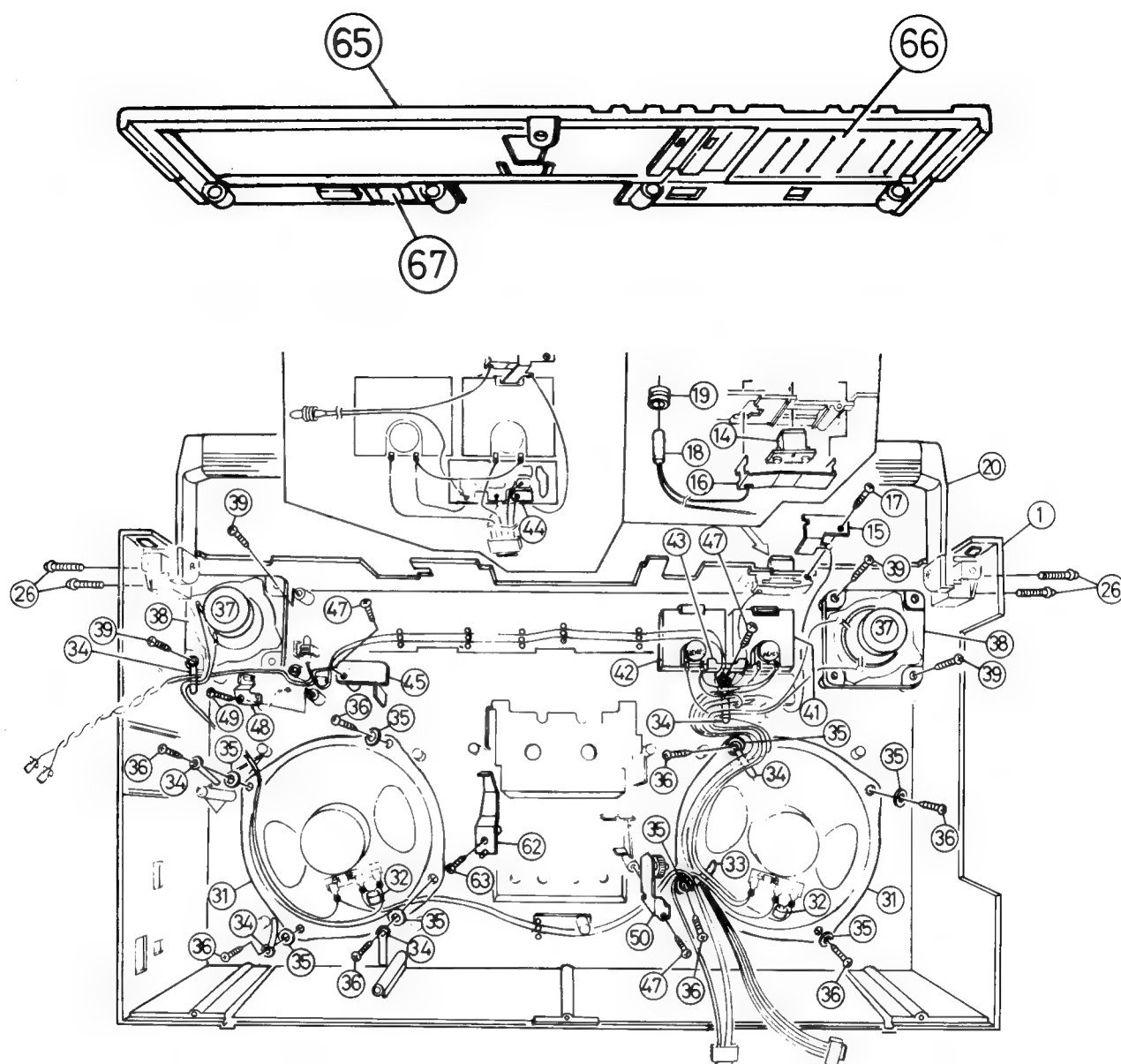


Fig. 45

Asterisked parts (*) show new parts.

| Ref. No. | Parts No. | Parts Name | Description | Q'ty |
|----------|---------------|---------------------|-------------|------|
| 1 ~ 13 | *ZCRCM70L-CBF | Front Cabinet Ass'y | | 1 |
| 1 | *VJC1084-003 | Front Cabinet | | 1 |
| 2 | VJD4005-002 | Reflection Plate | | 1 |
| 3 | | | Blank No. | |
| 4 | *VJD4003-010 | Plate | Glued | 1 |
| 5 | *VJD4338-001 | Feature Plate | " | 1 |
| 6 | *VJD4323-001 | Microphone Plate | " | 2 |
| 7 | QXM2251-001 | Mark | " | 1 |
| 8 | *VJK3137-001 | Scale Plate | " | 1 |
| 9 | *VJK3138-001 | Dial Back | " | 1 |
| 10 | *VJK2124-003 | Dial Scale | " | 1 |
| 11 | *VJK3140-002 | Dial Lens | " | 1 |
| 12 | *VJD3196-004 | MMS Plate | " | 1 |
| 13 | *VJD3197-004 | LED Plate | " | |
| 14 | *VXP4052-001 | Check Light Knob | | 1 |

| Ref. No. | Parts No. | Parts Name | Description | Q'ty |
|----------|--|------------------------|--------------------------|------|
| 15 | *VYH4394-001 | Contact | PL501 | 1 |
| 16 | *VYH4395-001 | Spring | | 1 |
| 17 | SBSB3010Z | Screw | | 1 |
| 18 | QLP3101-334 | Lamp | | 1 |
| 19 | 53492-002 | Rubber Bushing | | 1 |
| 20 | *VJH3005-00K | Handle Ass'y | | 1 |
| 21 | *V31131-003 | Supporter | | 2 |
| 22 | V44943-001 | Washer (L) | | 1 |
| 23 | V44944-001 | " (R) | | 1 |
| 24 | V44883-001 | Bracket | | 2 |
| 25 | SPSP3014ZS | Screw | | 2 |
| 26 | SDSP3018RS | " | | 4 |
| 27 | *VJN4038-001 | Needle | | 1 |
| 28 | *VJD3198-001 | Speaker Net | | 2 |
| 29 | *VJD3199-001 | Speaker Ring | | 2 |
| 30 | VJD4008-001 | Special Screw | SPK301, 401 C311, 411 | 8 |
| 31 | *EAS16P182S | Speaker | | 2 |
| 32 | QEN41EM-335 | Electrolytic Capacitor | | 2 |
| 33 | VKZ4001-010 | Wire Holder | | 1 |
| 34 | VKZ4001-007 | " | | 6 |
| 35 | Q03091-105 | Washer | | 8 |
| 36 | SBSB3010Z | Screw | | 8 |
| 37 | *EAS5PH01SC | Tweeter | | 2 |
| 38 | *VYH4396-001 | Tweeter Holder | | 2 |
| 39 | SBSB3014Z | Screw | | 4 |
| 40 | *VGM0320-006 *VGM0320-005 *VYH4397-001 LED Circuit Board Ass'y | Indicator | Blank No. | 1 |
| 41 | | " | Battery (L) IND301 | 1 |
| 42 | | " | Tuning (R) IND401 | 1 |
| 43 | | Meter Holder | | 1 |
| 44 | LED Circuit Board Ass'y | | Metal, Power | |
| 45 | LED Circuit Board Ass'y | | FM stereo | |
| 46 | | | Blank No. | |
| 47 | SBSB3012Z | Screw | | 2 |
| 48 | V44981-001 | Grounding Catcher | | 1 |
| 49 | SBSB3010Z | Screw | | 1 |
| 50 | *VYH4399-00B | Gear Frame Ass'y | | 1 |
| 51 | Q03093-524 | Washer | | 1 |
| 52 | VKS4108-003 | Spur Gear | | 1 |
| 53 | VKS4109-004 | Brake Drum | | 1 |
| 54 | VKW3001-006 | Spring | | 1 |
| 55 | WNS2600Z | Washer | | 1 |
| 56 | REE2000X | E-ring | | 1 |
| 57 | VKS4110-002 | Brake Arm | | 1 |
| 58 | VKZ4111-001 | Rubber Tire | | 1 |
| 59 | VKL4271-001 | Rubber Holder | | 1 |
| 60 | VKW4106-001 | Torsion Spring | | 1 |
| 61 | REE2000X | E-ring | | 1 |
| 62 | *VKY4167-003 | Door Spring | | 1 |
| 63 | SBSB3012Z | Screw | | 1 |
| 65 ~ 67 | *ZCRCM70L-TPA | Top Panel Ass'y | | 1 |
| 65 | *VJC1088-005 | Top Panel | Glued " | 1 |
| 66 | *VYTA444-001 | Blind | | 1 |
| 67 | *VYTA422-001 | Dust Pad | | 1 |
| 68 | *VXS4026-001 | Slide Knob | | 6 |
| 69 | *VJT3044-00A | Cassette Door Ass'y | | 1 |
| 70 | *VJT3045-001 | Lens | SA | 1 |
| 71 | Q03093-502 | Washer | | 2 |
| 72 | TJA345525-01 | Special Screw | | 2 |
| 73 | TJL271485-01 | Head Mark | | 1 |

Exploded Views of Rear Cabinet (RC-M70L)

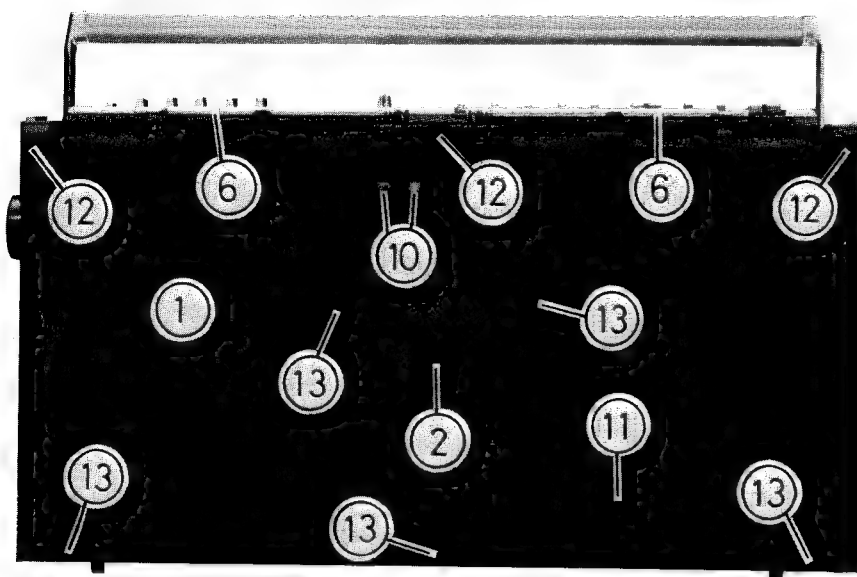


Fig. 46

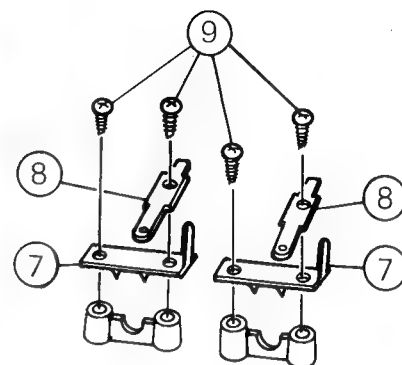


Fig. 48

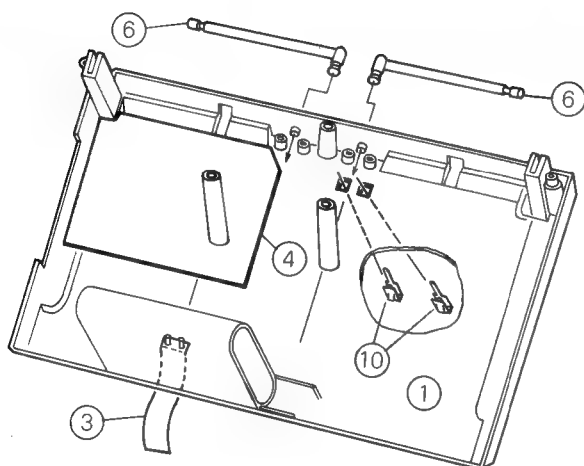


Fig. 47

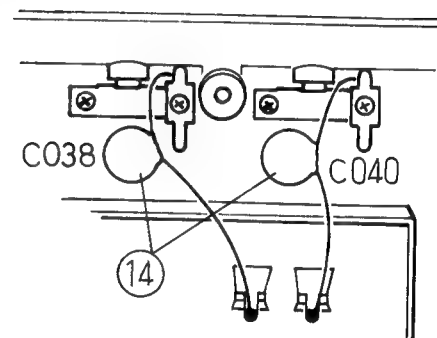


Fig. 49

Asterisked parts (*) show new parts.

| Ref. No | Parts No. | Parts Name | Description | Q'ty |
|---------|---------------|---------------------|---------------------------|------|
| 1~5 | *ZCRCM70L-CBR | Rear Cabinet Ass'y | | 1 |
| 1 | *VJC1085-003 | Rear Cabinet | | 1 |
| 2 | *VYN5058-008C | Name Plate | | 1 |
| 3 | *V41583-008 | Tape | | 1 |
| 4 | *VYH4473-00A | Shield Plate Ass'y | | 1 |
| 5 | | | Blank No. | |
| 6 | QZR4147-001U | Rod Antenna | | 2 |
| 7 | VYH4189-001 | Rod Antenna Holder | | 2 |
| 8 | V41208-003 | Tab | | 2 |
| 9 | SBSF3008Z | Screw | | 4 |
| 10 | V44814-00B | Terminal Ass'y | Ext. Antenna | 2 |
| 11 | *ZCRCM70L-BCA | Battery Cover Ass'y | | 1 |
| 12 | SDSP3012RS | Screw | For Mounting Rear Cabinet | 3 |
| 13 | SBSF3040R | " | " | 5 |
| 14 | QCS11HJ-220 | Ceramic Capacitor | C038,040 | 2 |

Exploded Views of Tuner Chassis Ass'y and Power Supply Ass'y (RC-M70L)

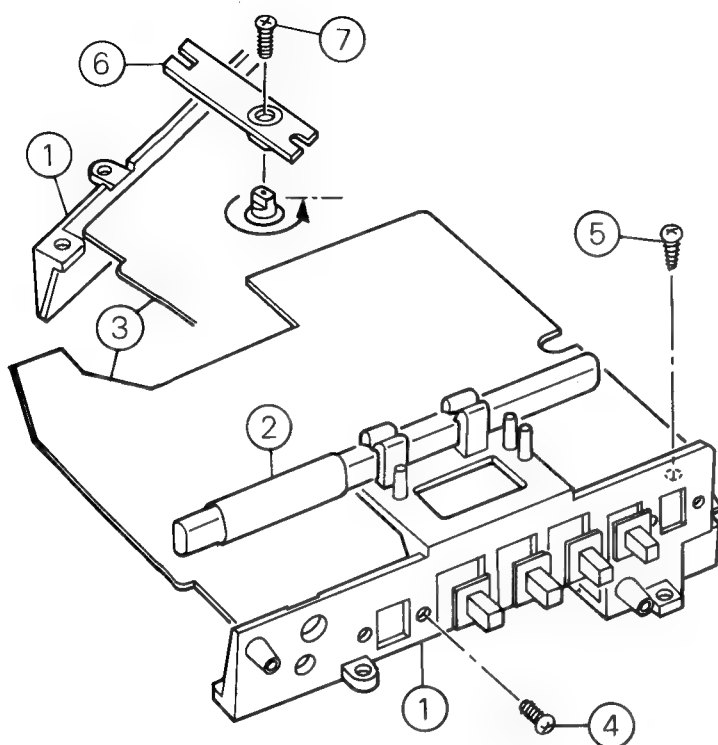


Fig. 50

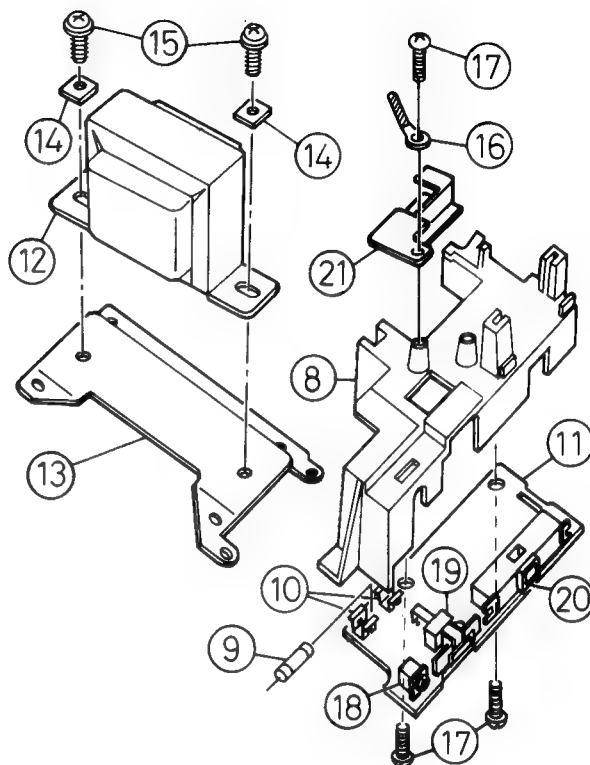


Fig. 51

Asterisked parts (*) show new parts.

| Ref. No. | Parts No. | Parts Name | Description | Q'ty |
|----------|------------------------------------|---------------------|----------------------------|------|
| 1 | VYH2107-001 | Bar Antenna Holder | L8, 9 | 1 |
| 2 | VQB016B-302 | Bar Antenna | | 1 |
| 3 | Tuner Circuit Board Ass'y | | | |
| 4 | SPSP3006ZS | Screw | | 1 |
| 5 | SBSB3012Z | " | | 1 |
| 6 | *VYH4407-001 | Arm | T4 A | 1 |
| 7 | SSSP2610Z | Screw | | 1 |
| 8 | *VYH3154-001 | AC Holder | | 1 |
| 9 | △ *QMF51A2-4R0 | Fuse | | 1 |
| 10 | A44594-001 | Fuse Clip | | 1 |
| 11 | △ Power Supply Circuit Board Ass'y | | T681 | |
| 12 | △ *VTP66N2-15B | Power Transformer | | 1 |
| 13 | *VYH4406-001 | Transformer Bracket | | 1 |
| 14 | F4932-002 | Special Washer | | 2 |
| 15 | LPSP4008ZS | Ass'y Screw | | 2 |
| 16 | VKZ4001-011 | Wire Holder | J681 J682, S681 S682 | 1 |
| 17 | SBSB3012Z | Screw | | 3 |
| 18 | △ QMA1221-004 | Ext. DC Jack Ass'y | | 1 |
| 19 | △ QMC0263-002 | AC Socket Ass'y | | 1 |
| 20 | △ *QSS2325-107 | Slide Switch | | 1 |
| 21 | *VHY4444-001 | Wire Holder | | 1 |

Final Packing Ass'y (RC-M70L)

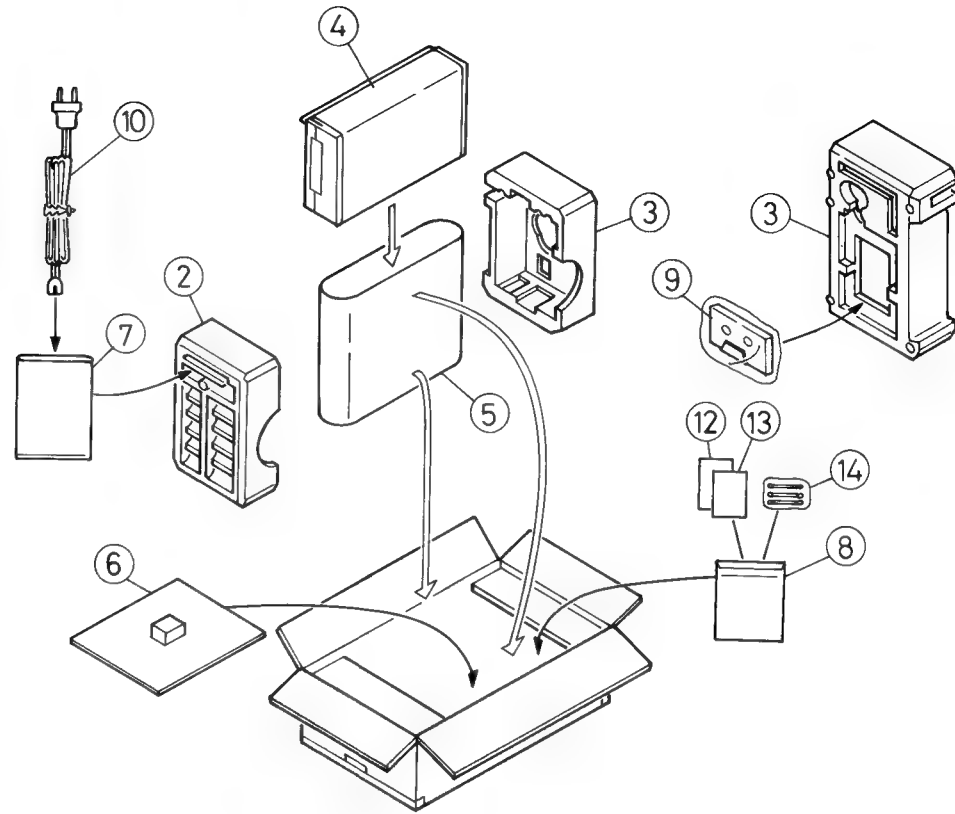


Fig. 52

Asterisked parts (*) show new parts.

| Ref. No. | Parts No. | Parts Name | Description | Q'ty |
|----------|---------------|------------------|----------------------|------|
| 1 | *VPD5058-J03 | Carton Box | | 1 |
| 2 | *VPH1180-001 | Side Cushion | Left | 1 |
| 3 | *VPH1181-001 | " | Right | 1 |
| 4 | VHPJ109-039 | Wrapping Paper | | 1 |
| 5 | QPGA070-07505 | Polyethylene Bag | | 1 |
| 6 | VPK4135-00A | Cushion Ass'y | | 1 |
| 7 | QPGA012-02505 | Polyethylene Bag | for Power Cord | 1 |
| 8 | QPG8024-03404 | " | for Instruction Book | 1 |

Accessories (RC-M70L)

Asterisked parts (*) show new parts.

| Ref. No. | Parts No. | Parts Name | Description | Q'ty |
|----------|---------------|-----------------------|------------------------|------|
| 9 | *VGT12M2-J02 | Cassette Tape | | 1 |
| 10 | △ QMP3950-183 | Power Cord | | 1 |
| 11 | | | Blank No. | |
| 12 | *VNM0761-301 | Instruction Book | | 1 |
| 13 | VNC6305-001 | Troubleshooting Chart | | 1 |
| 14 | VYA4001-00A | Head Cleaning Stick | | 1 |
| 15 | VNF0757-001 | Feature Sticker | Glued on Cassette Door | 1 |
| 16 | VND4030-002 | Caution Label | Glued on Top Panel | 1 |

Exploded Views of Front Cabinet (RC-M70LB)

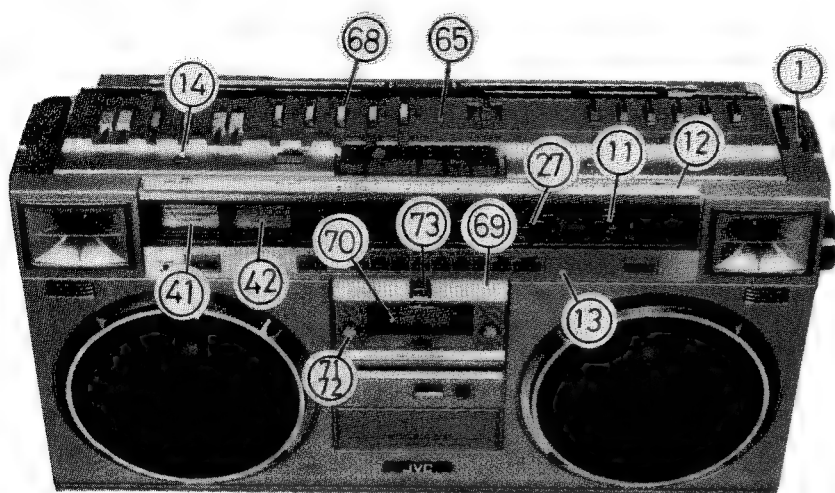


Fig. 53

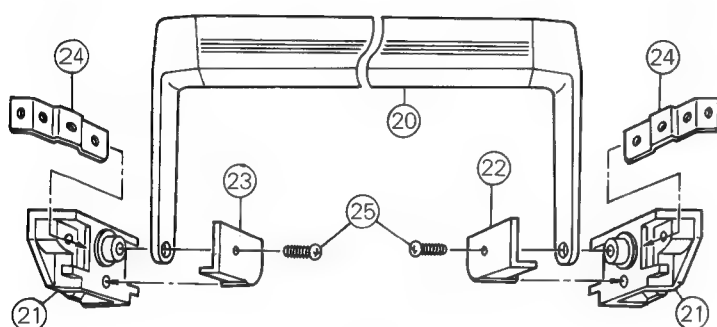


Fig. 54

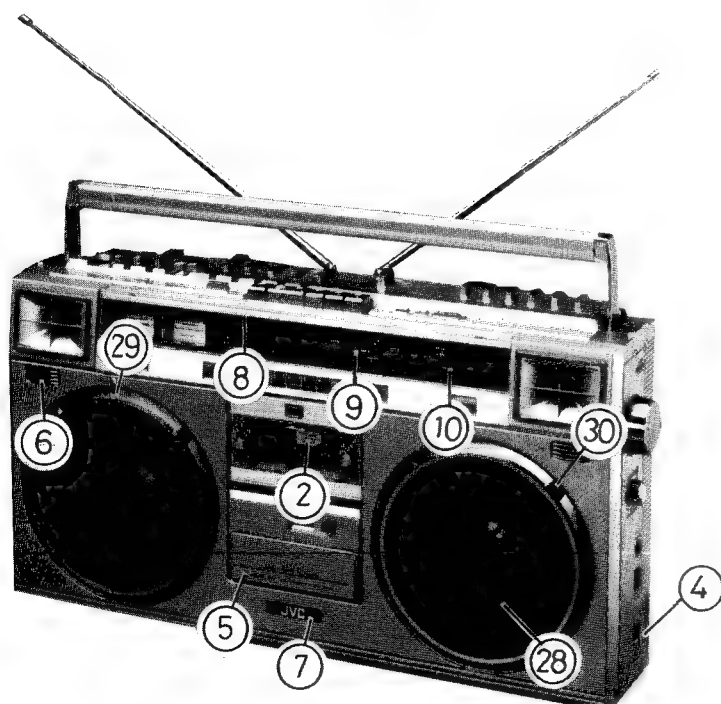


Fig. 55

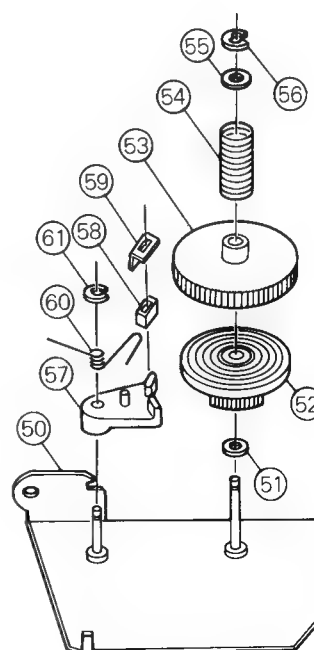


Fig. 56

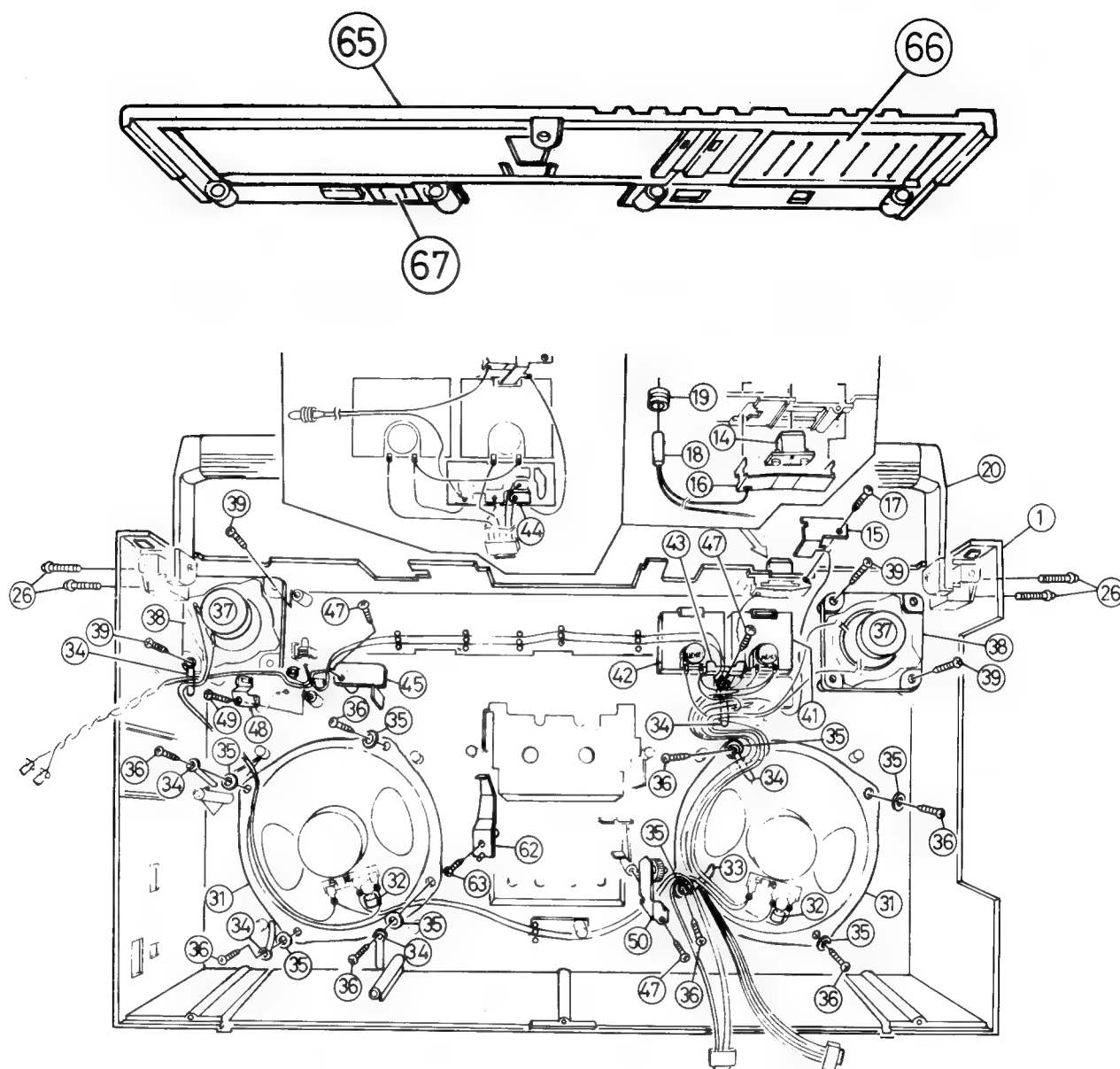


Fig. 57

Asterisked parts (*) show new parts.

| Ref. No. | Parts No. | Parts Name | Description | Q'ty |
|----------|-----------------------|----------------------------|-------------|----------|
| 1 ~ 13 | *ZCRCM70LB-CBF | Front Cabinet Ass'y | | 1 |
| 1 | *VJC1084-003 | Front Cabinet | | 1 |
| 2 | VJD4005-002 | Reflection Plate | | 1 |
| 3 | | | Blank No. | |
| 4 | *VJD4003-010 | Plate | Glued | 1 |
| 5 | *VJD4338-001 | Feature Plate | " | 1 |
| 6 | *VJD4323-001 | Microphone Plate | " | 2 |
| 7 | QXM2251-001 | Mark | " | 1 |
| 8 | *VJK3137-001 | Scale Plate | " | 1 |
| 9 | *VJK3138-001 | Dial Back | " | 1 |
| 10 | *VJK2124-003 | Dial Scale | " | 1 |
| 11 | *VJK3140-002 | Dial Lens | " | 1 |
| 12 | *VJD3196-004 | MMS Plate | " | 1 |
| 13 | *VJD3197-004 | LED Plate | " | 1 |
| 14 | *VXP4052-001 | Check Light Knob | | 1 |

| Ref. No. | Parts No. | Parts Name | Description | Q'ty |
|----------|--|------------------------|--------------------------|------|
| 15 | *VYH4394-001 | Contact | PL501 | 1 |
| 16 | *VYH4395-001 | Spring | | 1 |
| 17 | *SBSB3010Z | Screw | | 1 |
| 18 | QLP3101-334 | Lamp | | 1 |
| 19 | 53492-002 | Rubber Bushing | | 1 |
| 20 | *VJH3005-00K | Handle Ass'y | | 1 |
| 21 | *V31131-003 | Supporter | | 2 |
| 22 | V44943-001 | Washer (L) | | 1 |
| 23 | V44944-001 | " (R) | | 1 |
| 24 | V44883-001 | Bracket | | 2 |
| 25 | SPSP3014ZS | Screw | | 2 |
| 26 | SDSP3018RS | " | | 4 |
| 27 | *VJN4038-001 | Needle | | 1 |
| 28 | *VJD3198-001 | Speaker Net | | 2 |
| 29 | *VJD3199-001 | Speaker Ring | | 2 |
| 30 | VJD4008-001 | Special Screw | SPK301, 401 C311, 411 | 8 |
| 31 | *EAS16P182S | Speaker | | 2 |
| 32 | QEN41EM-335 | Electrolytic Capacitor | | 2 |
| 33 | VKZ4001-010 | Wire Holder | | 1 |
| 34 | VKZ4001-007 | " | | 6 |
| 35 | Q03091-105 | Washer | | 8 |
| 36 | SBSB3010Z | Screw | | 8 |
| 37 | *EAS5PH01SC | Tweeter | | 2 |
| 38 | *VYH4396-001 | Tweeter Holder | | 2 |
| 39 | SBSB3014Z | Screw | | 4 |
| 40 | *VGM0320-006 *VGM0320-005 *VYH4397-001 LED Circuit Board Ass'y | Indicator | Blank No. | 1 |
| 41 | | " | Battery (L) IND301 | 1 |
| 42 | | Meter Holder | Tuning (R) IND401 | 1 |
| 43 | | | | |
| 44 | LED Circuit Board Ass'y | | Metal, Power | |
| 45 | LED Circuit Board Ass'y | | FM stereo | |
| 46 | | | Blank No. | |
| 47 | SBSB3012Z | Screw | | 2 |
| 48 | V44981-001 | Grounding Catcher | | 1 |
| 49 | SBSB3010Z | Screw | | 1 |
| 50 | *VYH4399-00B | Gear Frame Ass'y | | 1 |
| 51 | Q03093-524 | Washer | | 1 |
| 52 | VKS4108-003 | Spur Gear | | 1 |
| 53 | VKS4109-004 | Brake Drum | | 1 |
| 54 | VKW3001-006 | Spring | | 1 |
| 55 | WNS2600Z | Washer | | 1 |
| 56 | REE2000X | E-ring | | 1 |
| 57 | VKS4110-002 | Brake Arm | | 1 |
| 58 | VKZ4111-001 | Rubber Tire | | 1 |
| 59 | VKL4271-001 | Rubber Holder | | 1 |
| 60 | VKW4106-001 | Torsion Spring | | 1 |
| 61 | REE2000X | E-ring | | 1 |
| 62 | *VKY4167-003 | Door Spring | | 1 |
| 63 | SBSB3012Z | Screw | | 1 |
| 65 ~ 67 | *ZCRCM70LB-TPA | Top Panel Ass'y | | 1 |
| 65 | *VJC1088-005 | Top Panel | Glued " | 1 |
| 66 | *VYTA444-001 | Blind | | 1 |
| 67 | *VYTA422-001 | Dust Pad | | 1 |
| 68 | *VXS4026-001 | Slide Knob | | 6 |
| 69 | *VJT3044-00A | Cassette Door Ass'y | | 1 |
| 70 | *VJT3045-001 | Lens | SA | 1 |
| 71 | Q03093-502 | Washer | | 2 |
| 72 | TJA345525-01 | Special Screw | | 2 |
| 73 | TJL271485-01 | Head Mark | | 1 |

Exploded Views of Rear Cabinet (RC-M70LB)

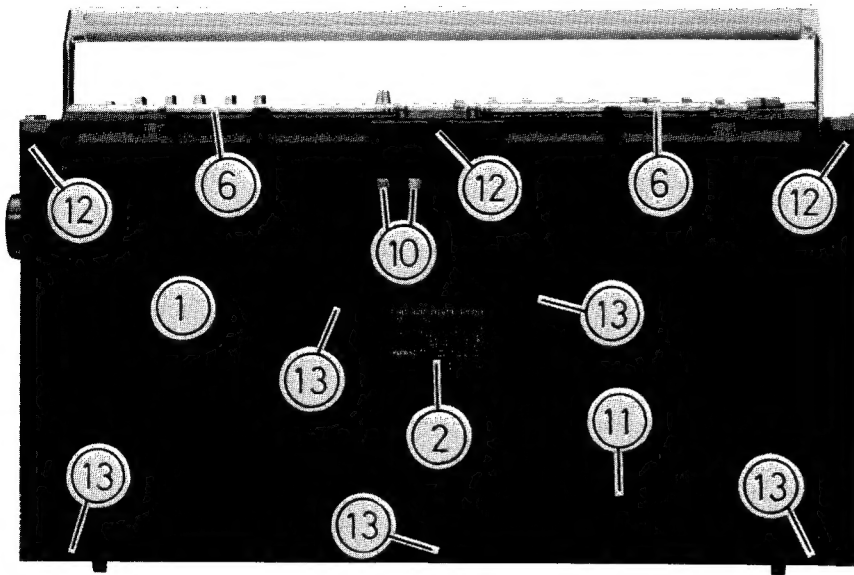


Fig. 58

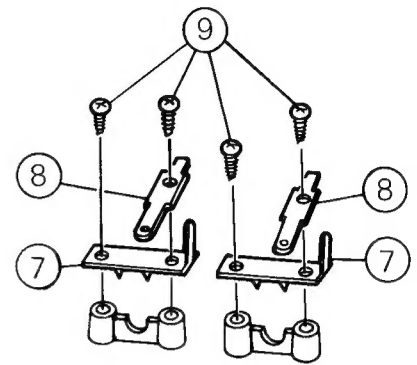


Fig. 60

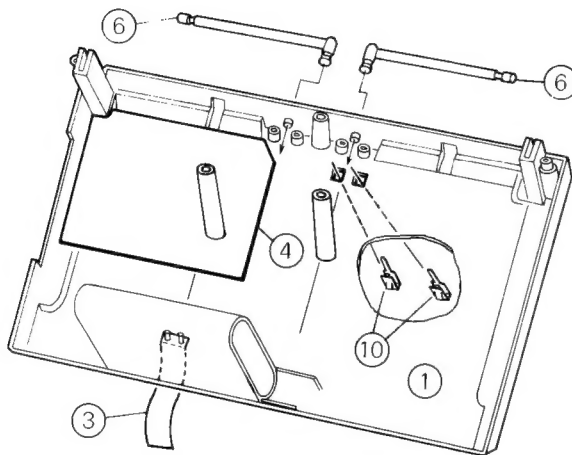


Fig. 59

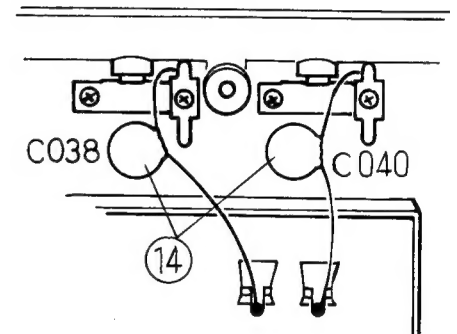


Fig. 61

Asterisked parts (*) show new parts.

| Ref. No. | Parts No. | Parts Name | Description | Q'ty |
|----------|-----------------|---------------------|---------------------------|------|
| 1~5 | *ZCRCM70LB-CBR | Rear Cabinet Ass'y | | 1 |
| 1 | *VJC1085-003 | Rear Cabinet | | 1 |
| 2 | *VYN5058-003CBS | Name Plate | | 1 |
| 3 | *V41583-008 | Tape | | 1 |
| 4 | *VYH4473-00A | Shield Plate Ass'y | | 1 |
| 5 | | | Blank No. | |
| 6 | QZR4147-001U | Rod Antenna | | 2 |
| 7 | VYH4189-001 | Rod Antenna Holder | | 2 |
| 8 | V41208-003 | Tab | | 2 |
| 9 | SBSF3008Z | Screw | | 4 |
| 10 | V44814-00B | Terminal Ass'y | Ext. Antenna | 2 |
| 11 | *ZCRCM70LB-BCA | Battery Cover Ass'y | | 1 |
| 12 | SDSP3012RS | Screw | For Mounting Rear Cabinet | 3 |
| 13 | SBSF3040R | " | " | 5 |
| 14 | QCS11HJ-220 | Ceramic Capacitor | C038,040 | 2 |

Exploded Views of Tuner Chassis Ass'y and Power Supply Ass'y (RC-M70LB)

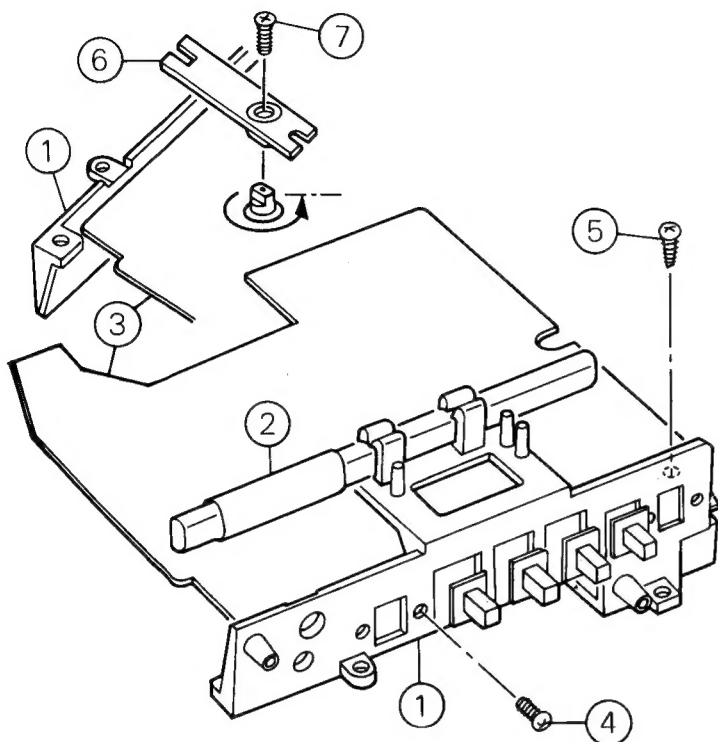


Fig. 62

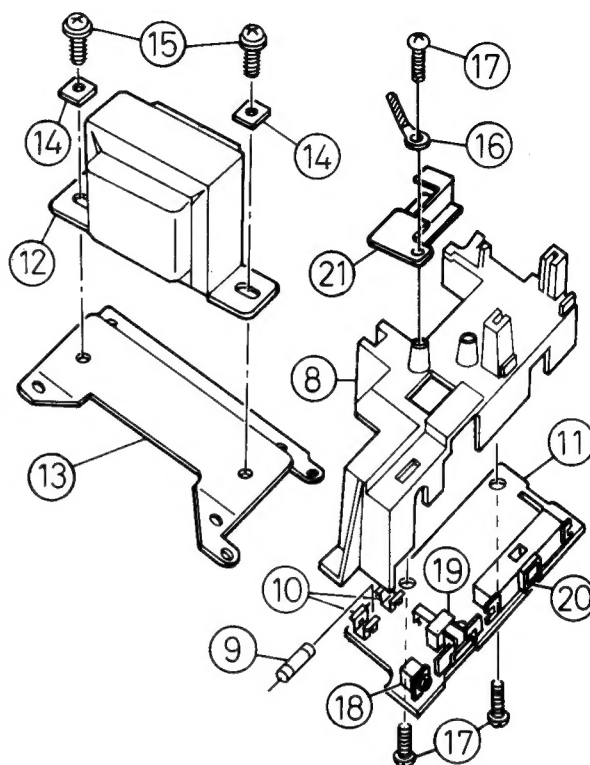


Fig. 63

Asterisked parts (*) show new parts.

| Ref. No. | Parts No. | Parts Name | Description | Q'ty |
|----------|-----------------------------------|---------------------|----------------------------|------|
| 1 | VYH2107-001 | Bar Antenna Holder | L8, 9 | 1 |
| 2 | VQB016B-302 | Bar Antenna | | 1 |
| 3 | Tuner Circuit Board Ass'y | | | |
| 4 | SPSP3006ZS | Screw | | 1 |
| 5 | SBSB3012Z | " | | 1 |
| 6 | *VYH4407-001 | Arm | T4 A | 1 |
| 7 | SSSP2610Z | Screw | | 1 |
| 8 | *VYH3154-001 | AC Holder | | 1 |
| 9 | ⚠*QMF51A2-4R0BS | Fuse | | 1 |
| 10 | A44594-001 | Fuse Clip | | 1 |
| 11 | ⚠Power Supply Circuit Board Ass'y | | T681 | |
| 12 | ⚠*VTP66N2-15BBS | Power Transformer | | 1 |
| 13 | *VYH4406-001 | Transformer Bracket | | 1 |
| 14 | F4932-002 | Special Washer | | 2 |
| 15 | LPSP4008ZS | Ass'y Screw | | 2 |
| 16 | VKZ4001-011 | Wire Holder | J681 J682, S681 S682 | 1 |
| 17 | SBSB3012Z | Screw | | 3 |
| 18 | ⚠QMA1221-004 | Ext. DC Jack Ass'y | | 1 |
| 19 | ⚠QMC0263-002BS | AC Socket Ass'y | | 1 |
| 20 | ⚠*QSS2325-107BS | Slide Switch | | 1 |
| 21 | *VHY4444-001 | Wire Holder | | 1 |

Final Packing Ass'y (RC-M70LB)

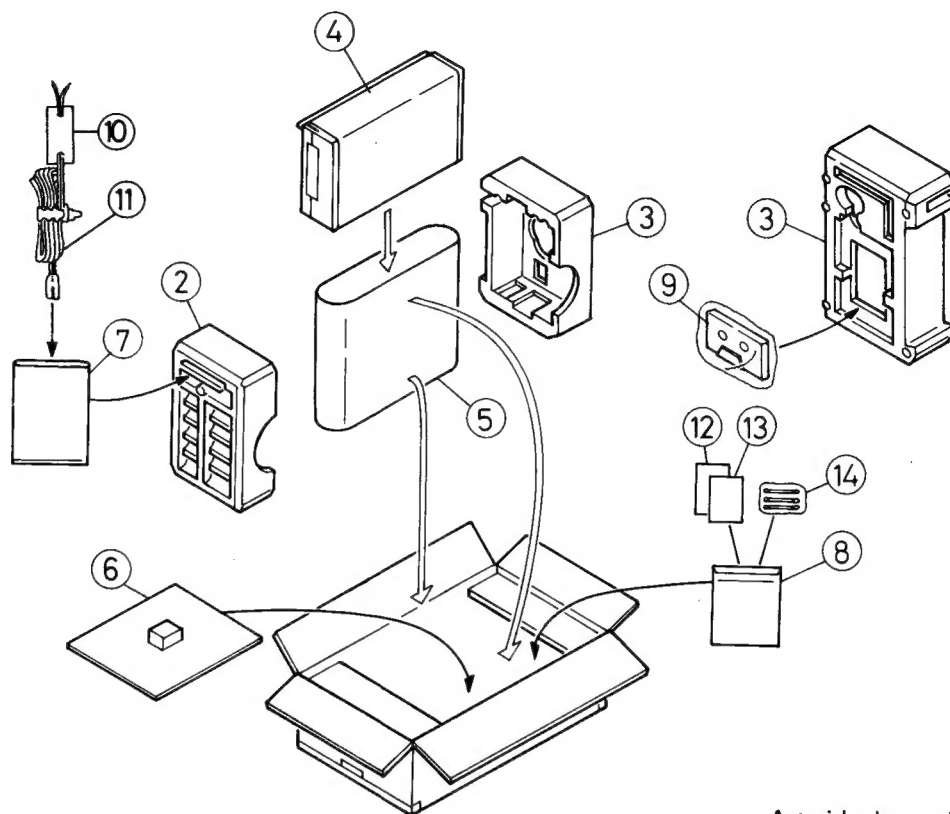


Fig. 64

Asterisked parts (*) show new parts.

| Ref. No. | Parts No. | Parts Name | Description | Q'ty |
|----------|---------------|------------------|----------------------|------|
| 1 | *VPD5058-J03 | Carton Box | | 1 |
| 2 | *VPH1180-001 | Side Cushion | Left | 1 |
| 3 | *VPH1181-001 | " | Right | 1 |
| 4 | VHPJ109-039 | Wrapping Paper | | 1 |
| 5 | QPGA070-07505 | Polyethylene Bag | | 1 |
| 6 | VPK4135-00A | Cushion Ass'y | | 1 |
| 7 | QPGA012-02505 | Polyethylene Bag | for Power Cord | 1 |
| 8 | QPG8024-03404 | " | for Instruction Book | 1 |

Accessories (RC-M70LB)

Asterisked parts (*) show new parts.

| Ref. No. | Parts No. | Parts Name | Description | Q'ty |
|----------|-----------------|-----------------------|------------------------|------|
| 9 | *VGT12M2-J02 | Cassette Tape | | 1 |
| 10 | △ QZL1002-003BS | Warning Label | | 1 |
| 11 | △ QMP9017-009BS | Power Cord | | 1 |
| 12 | *VNM0761-301 | Instruction Book | | 1 |
| 13 | VNC6305-001 | Troubleshooting Chart | | 1 |
| 14 | VYA4001-00A | Head Cleaning Stick | | 1 |
| 15 | VNF0757-001 | Feature Sticker | Glued on Cassette Door | 1 |
| 16 | VND4030-002 | Caution Label | Glued on Top Panel | 1 |

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